EDIROL

MIDI KEYBOARD CONTROLLER

PCR-M1

Owner's Manual

Thank you for purchasing the MIDI keyboard controller PCR-M1.

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (OWNER'S MANUAL p. 2–4). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.

- Do not open (or modify in any way) the unit or its AC adaptor.

- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

- Never use or store the unit in places that are:
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
  - Damp (e.g., baths, washrooms, on wet floors); or are
  - Humid; or are
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.

- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

⚠WARNING

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!

- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.

- Protect the unit from strong impact.
  (Do not drop it!)

- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠ WARNING

- Batteries must never be recharged, heated, taken apart, or thrown into fire or water.

- DO NOT play a CD-ROM disc on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result.

- Use only the specified AC adaptor (PSA Series), and make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.

- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
  - The AC adaptor or the power-supply cord has been damaged; or
  - If smoke or unusual odor occurs
  - Objects have fallen into, or liquid has been spilled onto the unit; or
  - The unit has been exposed to rain (or otherwise has become wet); or
  - The unit does not appear to operate normally or exhibits a marked change in performance.

⚠ CAUTION

- The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation.

- At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire.

- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.

⚠ CAUTION

- Never climb on top of, nor place heavy objects on the unit.

- Before moving the unit, disconnect the AC adaptor and all cords coming from external devices.

- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet.

- Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet.

- If used improperly, batteries may explode or leak and cause damage or injury. In the interest of safety, please read and observe the following precautions (p.16).

  - Carefully follow the installation instructions for batteries, and make sure you observe the correct polarity.

  - Avoid using new batteries together with used ones. In addition, avoid mixing different types of batteries.
  - Remove the batteries whenever the unit is to remain unused for an extended period of time.
  - If a battery has leaked, use a soft piece of cloth or paper towel to wipe all remnants of the discharge from the battery compartment. Then install new batteries. To avoid inflammation of the skin, make sure that none of the battery discharge gets onto your hands or skin. Exercise the utmost caution so that none of the discharge gets near your eyes. Immediately rinse the affected area with running water if any of the discharge has entered the eyes.
  - Never keep batteries together with metallic objects such as ballpoint pens, necklaces, hairpins, etc.

- Used batteries must be disposed of in compliance with whatever regulations for their safe disposal that may be observed in the region in which you live.

- Always grasp only the output plug or the body of the AC adaptor when plugging into, or unplugging from, this unit or an outlet.

- Never handle the AC adaptor body, or its output plugs, with wet hands when plugging into, or unplugging from, an outlet or this unit.

IMPORTANT NOTES

In addition to the items listed under "USING THE UNIT SAFELY" on page 2 -3, please read and observe the following:

Power Supply: Use of Batteries

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- The use of an AC adaptor is recommended as the unit's power consumption is relatively high. Should you prefer to use batteries, please use the alkaline type.
- When installing or replacing batteries, always turn off the power on this unit and disconnect any other devices you may have connected. This way, you can prevent malfunction and/or damage to speakers or other devices.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not allow objects to remain on top of the keyboard. This can be the cause of malfunction, such as keys ceasing to produce sound.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up in another MIDI device (e.g., a sequencer), or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in another MIDI device (e.g., a sequencer).
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use only the specified expression pedal (EV Series; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

Handling CD-ROMs

- Avoid touching or scratching the shiny underside (encoded surface) of the disc. Damaged or dirty CD-ROM discs may not be read properly. Keep your discs clean using a commercially available CD cleaner.

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Contents

Contents of the package 10

Quick page reference table 11

Names of things and what they do 12

Panel 12
Rear Panel 15
Inserting batteries 16

Setup 17

Getting Connected and Installing Drivers (Windows) 18

Installing the driver 18
Windows XP users 18
Windows 2000 users 23
Windows Me/98 users 27
Settings and checking 28
Windows XP users 28
Windows 2000 / Me users 29
Windows 98 users 30

Getting Connected and Installing Drivers (Macintosh) 31

Mac OS X users 31
Installing the driver 31
Mac OS settings 32
Software settings 33
Mac OS 9 users 34
Installing the driver 34
Setting the driver 35
OMS settings 35
FreeMIDI settings 38

Operation 41

Basic connections and MIDI flow 42

USB connections with your computer
– Sending MIDI messages to your application – 42
USB connections with your computer
– Using the PCR-M1 as a MIDI interface – 43
When using a MIDI connection 44

Input / output devices 45

Use MIDI functionality 47

Table of operating modes 47
Startup mode 48
PLAY mode 48
Features Useful When Playing 49
To switch the PCR-M1 to PLAY mode... 49
Setting the MIDI Transmit Channel 50
MIDI Channel mode (MIDI CH) 50
Selecting Sounds on a Sound Module
(Sending Program Change / Bank Select Massages) 52
Program Change Mode (PROGRAM CHANGE) 53
Bank mode (BANK) 54
Transmitting a Reset message 55
Panic Mode (PANIC) 55
Changing the Memory Sets 56
Memory mode (MEMORY) 56
Transmitting the current controller values all at once (SNAPSHOT) 57
Snapshot mode (SNAPSHOT) 57
Assign MIDI messages (EDIT) 58
Edit mode (EDIT) 58
NOTE ASSIGN 60
AFTERTOUCH ASSIGN 62
CONTROL CHANGE ASSIGN 65
PROGRAM CHANGE ASSIGN 68
RPN / NRPN ASSIGN 71
Sys Ex. ASSIGN 74
Sys Ex. ASSIGN items 76
Examples of assigning system exclusive messages 79
TEMPO ASSIGN 83
Copying a MIDI message assignment (ASSIGN COPY) 84
Canceling a MIDI message assignment (NO ASSIGN) 85
Saving a memory set (SAVE) 86
Transmitting/receiving bulk data (BULK) 87
Protecting a memory set (PROTECT) 90

System settings 91
F8 CLOCK ON / OFF (Keyboard: 0) 92
F8 CLOCK DEFAULT TEMPO (Keyboard: 1) 92
F8 CLOCK PORT (Keyboard: 2) 92
KEYBOARD SENS (Keyboard: 3) 92
KEYBOARD PORT SET (Keyboard: 4) 93
H-ACTIVITY ON / OFF (Keyboard: 5) 93
USB MIDI DRIVER MODE (Keyboard: 6) 93
STARTUP MEMORY (Keyboard: 7) 93
FACTORY RESET (Keyboard: 8) 94
MIDI I/F MODE (Keyboard: 9) 94
VALUE ENCODER (Keyboard: A) 95

V-LINK mode 96

Appendices 97

Memory sets 98
GM2 set (MEMORY: 0) 98
MCR-8 MODE 3 (SONAR) SET 99
MCR-8 MODE 4 (Cubase 5/SX) SET 100
H-COMPATIBLE (ProTools LE, Digital Performer) SET (MEMORY: 9) 101
GS SET 101
XG SET 103

Troubleshooting 104
Problems related to the USB driver 104
Problems when using the PCR-M1 110

MIDI implementation 112

Main specifications 117

index 118

Memo

Contents of the package

The PCR-M1 includes the following items. When you open the package, first make sure that all items are included. If any are missing, contact the dealer where you purchased the PCR-M1.

● USB MIDI Keyboard Controller PCR-M1

● USB cable

Use this to connect the USB connector of your computer with the USB connector of the PCR-M1. For details on connections and driver installation, refer to **Setup** (**Windows**: p. 18 / **Macintosh**: p. 31).

* *Please use only the included USB cable. If you require a replacement due to loss or damage, please contact a "EDIROL/Roland Service Center" listed in the "Information" section at the end of this manual.*

● Pedal Adaptor Cable (2 cables)

Use these to connect pedal controllers (sold separately) to the [P1] and [P2] jacks on the rear panel of the PCR-M1.

● CD-ROM

This contains drivers and editors for use with the PCR-M1.

● Template sheets (two sheets)

One of these templates lists the messages that are assigned to the knobs and sliders (controllers) by GM2 memory (memory no. 0). A blank sheet is also included for you to make a note of your own controller settings.

● Gig Bag

● Owner's Manual

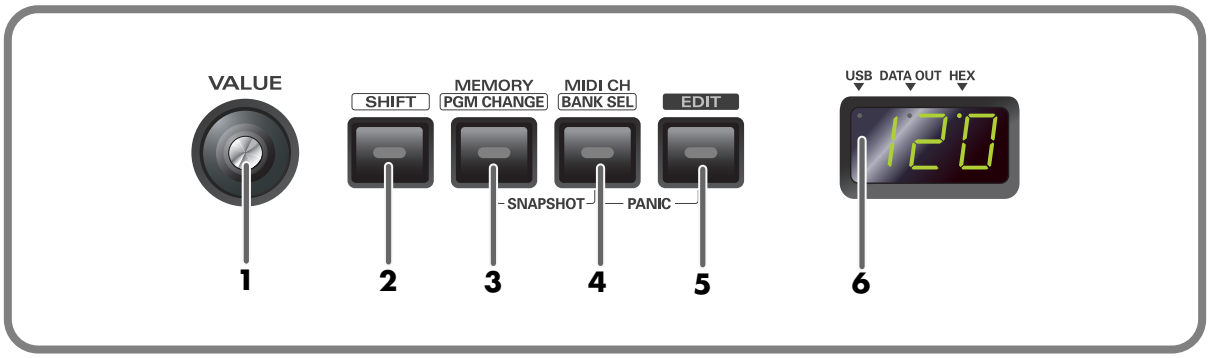
This is the manual you are reading. Please keep it on hand for reference.

Quick page reference table

Before you begin	Driver Installation	p. 18, p. 31
	Settings	p. 45
	Names of things and what they do	p. 12
	Table of operating modes	p. 47
	System settings	p. 91
Using the MIDI functionality	Startup mode	p. 48
	Features Useful When Playing	p. 49
	Pitch Bend	p. 49
	Modulation	p. 49
	Octave Shift	p. 49
	Transpose	p. 49
	Setting the MIDI Transmit Channel	p. 50
	Selecting Sounds on a Sound Module	p. 52
	Transmitting a Reset message	p. 55
	Changing memory sets	p. 56
	Transmitting the current controller values all at once	p. 57
	Assign MIDI messages	p. 58
	Note Assign	p. 60
	Aftertouch Assign	p. 62
	Control Change Assign	p. 65
	Program Change Assign	p. 68
	RPN/NRPN Assign	p. 71
	Sys Ex. Assign	p. 74
	Tempo Assign	p. 83
	Copying a MIDI message assignment	p. 84
	Canceling a MIDI message assignment	p. 85
	Saving a memory set	p. 86
	Transmitting/receiving bulk data	p. 87
	Protecting a memory set	p. 90
Making system settings	F8 Clock	p. 92
	KEYBOARD SENS	p. 92
	Keyboard Port Set	p. 93
	H-Activity On / Off	p. 93
	USB MIDI Driver Mode	p. 93
	Startup Memory	p. 93
	Factory Reset	p. 94
	MIDI I/F MODE	p. 94
	VALUE ENCODER	p. 95
Trouble Shooting	Problems related to the USB driver	p. 104
	Problems when using the PCR-M1	p. 110

Names of things and what they do

Panel



❶ Value knob

This knob controls the parameter that is assigned by the system settings. Turning the encoder specifies the value.

❷ SHIFT Button

Use this in conjunction with other buttons

❸ MEMORY / PGM CHANGE Button

Press the [MEMORY] Button	Accesses memories that are stored within the PCR-M1.
Press the **[SHIFT]** so it is lit, and then press the **[MEMORY]**.	Transmits program change messages on the current channel.

❹ MIDI CH / BANK SEL Button

Press the [MIDI CH] Button	Specifies the transmission channel (**"current channel"**) for the keyboard and bender.
Press the **[SHIFT]** so it is lit, and then press the **[MIDI CH]**.	Transmits bank select messages on the current channel.

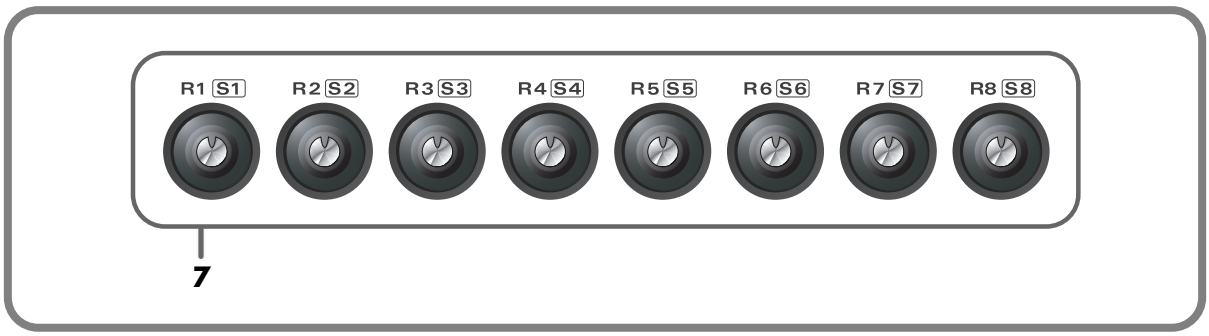
❺ EDIT Button

Used to assign MIDI messages to the controllers.

❻ Display

Indicates the current status and various other information.

Number	Indicates the current value of the function assigned to the VALUE encoder by the system parameter settings. In addition, operating a controller will cause its current value to appear in the display for a time.
USB	Lights if the PCR-M1 is connected to your computer via USB.
DATA OUT	This will blink when MIDI messages are transmitted via USB or MIDI OUT.
HEX	Lights when the value shown in the display is hexadecimal.

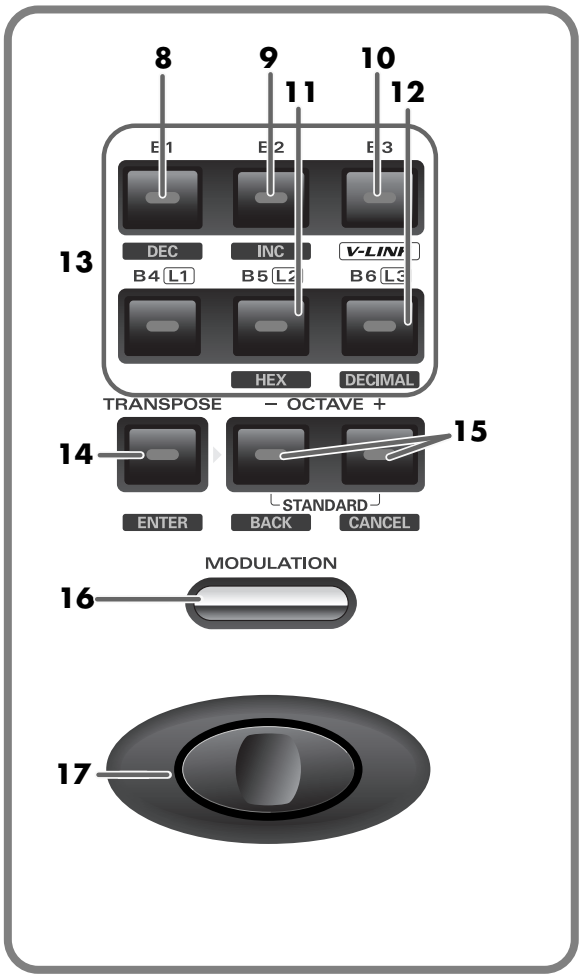


❼ Controllers [R1] – [R8], [S1] ([SHIFT] + [R1]) – [S8] ([SHIFT] + [R8])

You can assign MIDI messages to these controllers.

(→**Edit mode (EDIT)** (p. 58))

When the **[SHIFT]** button is unlit (SHIFT OFF), these controllers correspond to [R1]--[R8]. When the button is lit (SHIFT ON), they correspond to [S1]--[S8].



❽DEC Button

Decreases the value of a setting by one (except in **PLAY mode** (p. 48)).

❾INC Button

Increases the value of a setting by one (except in **PLAY mode** (p. 48)).

❿V-LINK Button

The V-LINK function (p. 96) will turn on when you press the [V-LINK] button (B3) while the [SHIFT] button is lit (SHIFT ON).

⓫HEX Button

When not in **PLAY mode** (p. 48), sets the input mode to Hexadecimal (Hexadecimal input mode).

⓬DECIMAL Button

When not in **PLAY mode** (p. 48), sets the input mode to Decimal (Decimal input mode).

⓭Controllers [B1] – [B6], [L1] – [L3]

You can assign MIDI messages to these controllers.(→p. 58)

⓮TRANSPOSE / ENTER Button

Use **[TRANSPOSE]** + **[OCTAVE -/+]** to transpose the pitch of the keyboard in semitone steps. Also, in any mode except PLAY mode, it functions as the **[ENTER]** button, which you need to press to confirm the settings you've made.

⓯OCTAVE - / + Button

Press **[OCTAVE - / +]** to shift the pitch of the keyboard up or down in steps of an octave. When not in PLAY mode, use these buttons to return to the previous setting item (the **[BACK]** button) or to cancel the setting and return to PLAY mode (the **[CANCEL]** button).

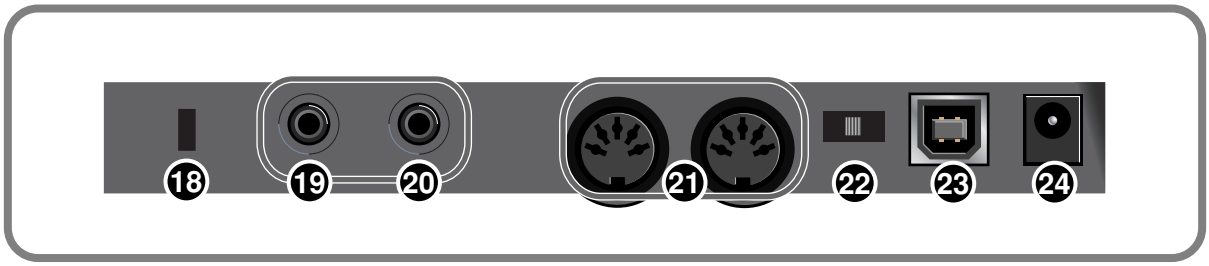
⓰MODULATION Controller

This button can be used to apply vibrato.

⓱PITCH Bender

This switch can be used to modify the pitch.

Rear Panel



18 Security Slot(K)

http://www.kensington.com/

19 Controllers [EXPRESS (P2)] and 20 [HOLD(P1)]

You can connect the appropriate type of pedals to these jacks and use them as controllers.

* ** Use the included converter cables to connect your pedals.*

P1 HOLD	Connect a pedal switch to this jack and use it as a Hold pedal.
P2 EXPRESS	Connect an expression pedal to this jack and use it to control tone or volume in real time.

21 MIDI IN/OUT connectors

These can be connected to the MIDI connectors of other MIDI devices to transmit and receive MIDI messages.

22 Power switch

DC	Power-on status when using the AC adaptor or batteries * If the AC adaptor is connected and batteries are inserted, the power supplied by the AC adaptor is used. If you disconnect the AC adaptor, the power supplied by the batteries is used.
OFF	Power is off
USB	Power on using a USB cable (when not using the AC adaptor or batteries) * USB(=BUS power) can be used when the PCR-M1 is connected to your computer via a USB cable. In this case, the power will be supplied from your computer via the USB cable. To use the PCR-M1 with bus power, set the power switch to USB. * *For some computers, the PCR-M1 may not operate if bus power is used. In this case, use the included AC adaptor.*

23 USB connector

Use this when connecting the PCR-M1 to your computer via a USB cable.

24 AC adaptor jack

Connect the AC adaptor to this jack. Insert the plug firmly so it won't get unplugged accidentally.

Inserting batteries

1 Make sure that the power switch is turned off.

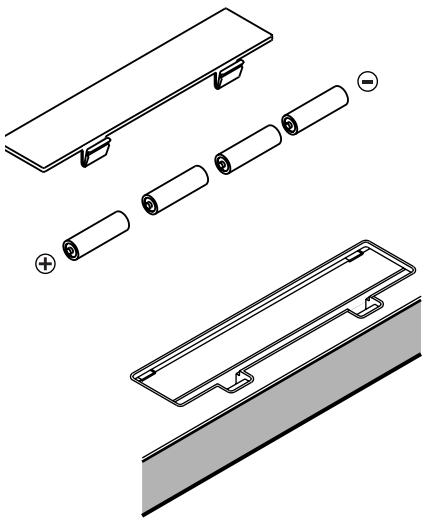
2 Remove the battery cover located on the rear panel of the PCR-M1.

* *When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.*
* *When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.*

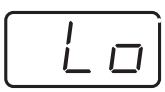
3 Insert four AAA batteries into the battery compartment, making sure to observe the correct polarity (+/-).

* *We recommend that you use longer-life alkaline batteries.*
* *Do not mix new batteries with partially used batteries, and do not mix batteries of differing types.*

4 Close the battery cover.



When the batteries run low, the display will indicate "Lo." When this message appears, replace the batteries as soon as possible.



Setup

This section explains how to install the drivers needed for connecting the PCR to a computer, and make the necessary settings.

Getting Connected and Installing Drivers (Windows)..... (p. 18)
Getting Connected and Installing Drivers (Macintosh)..... (p. 31)

What is a driver?

A "**driver**" is software that transfers data between the PCR and application software running on your computer, when your computer and the PCR are connected by a USB cable. The driver sends data from your application to the PCR, and from the PCR to your application.

Getting Connected and Installing Drivers (Windows)

Installing the driver

The installation procedure will differ depending on your system.
Please proceed to one of the following sections, depending on the system you use.

- Windows XP users ..... (p. 18)
- Windows 2000 users..... (p. 23)
- Windows Me/98 users ..... (p. 27)

Windows XP users

1

Disconnect all USB cables except for a USB keyboard and USB mouse (if used).

2

Open the **System Properties** dialog box.

1. Click the Windows **start** menu, and from the menu, select Control Panel.
2. In **"Pick a category"**, click **"Performance and Maintenance"**.
3. In **"or pick a Control Panel icon"**, click the **System** icon.

3

Click the **Hardware** tab, and then click **[Driver Signing]**.

Open the **Driver Signing Options** dialog box.

4

Make sure that **"What action do you want Windows to take?"** is set to **"Ignore"**.

If it is set to **"Ignore"**, simply click **[OK]**.
If it is not set to **"Ignore"**, make a note of the current setting ("Warn" or "Block"). Then change the setting to **"Ignore"** and click **[OK].**

NOTE

You must log on using a user name with an administrative account type (e.g., Administrator). For details on user accounts, please consult the system administrator of your computer.

MEMO

Depending on how your system is set up, the **System** icon may be displayed directly in the **Control Panel** (the Classic view). In this case, double-click the **System** icon.

MEMO

If you changed **"What action do you want Windows to take?"**, you must restore the previous setting after you have installed the driver. (**If you changed "What action do you want Windows to take?"** (p. 21))

5 Click **[OK]** to close the **System Properties** dialog box.

6 Exit all currently running software (applications).

Also close any open windows. If you are using virus checking or similar software, be sure to exit it as well.

7 Prepare the CD-ROM.

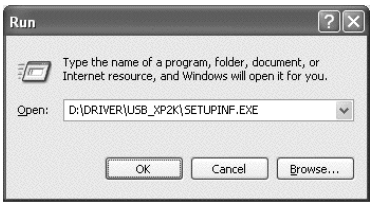
Insert the CD-ROM into the CD-ROM drive of your computer.

8 Click the Windows **start** menu. From the menu that appears, select **"Run..."**

The **"Run..."** dialog box will appear.

9 Specify the name of the file you want to execute.

Enter the following into the **"Open"** field, and click **[OK]**.



(drive name) : \Driver\USB_XP2K\SETUPINF.EXE

The **SetupInf** dialog box will appear.
You are now ready to install the driver.

* *In the explanatory example shown here, the drive name is given as **"D:"**. The drive name **"D:"** may be different for your system. Specify the drive name of your CD-ROM drive.*

10 Use the USB cable to connect the PCR to your computer.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

Near the task bar, your computer will indicate **"Found New Hardware"**. Please wait.

11 The **Found New Hardware Wizard** will appear.

Select **"Install from a list or specific location (Advanced)"**, and click **[Next]**.

MEMO

If the screen indicates "**Windows can perform the same action each time you insert a disk or connect a device with this kind of file**", click **[Cancel]**.

MEMO

To check the drive name

Click the **Start** menu, and choose **My Computer** from the menu that appears. In the window that appears, check the drive name of the CD-ROM drive into which you inserted the CD-ROM in step 7.
The drive name is the (D:) or (E:) displayed by the CD-ROM drive.

MEMO

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

MEMO

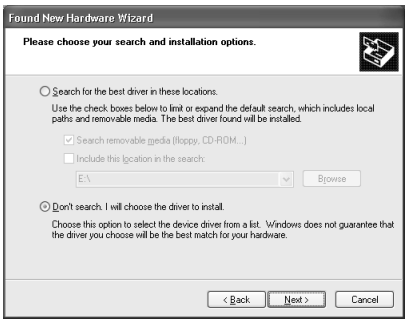
This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

MEMO

If the Found New Hardware Wizard asks you whether you want to connect to Windows Update, choose "No" and then click [Next].

12 The screen will indicate **"Please choose your search and installation options"**.

Select **"Don't search. I will choose the driver to install"**, and click **[Next]**.


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
E:\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

13 Make sure that the **"Model"** field indicates **"EDIROL PCR"**, and click **[Next]**. Driver installation will begin.

If the **"What action do you want Windows to take?" (Step 4) setting was not set to "Ignore"**, a **"Hardware Installation"** dialog box will appear.

If "What action do you want Windows to take?" is set to "Warn"

A dialog box with a **"!"** symbol will appear.

1. Click **[Continue Anyway]**.
2. Continue the installation.

If "What action do you want Windows to take?" is set to "Block"

A dialog box with a **"x"** symbol will appear.

1. Click [OK].
2. When the **"Found New Hardware Wizard"** appears, click **[Finish]**.
3. Return to **step 1** (p. 18) and re-install the driver from the beginning of the procedure.

14 The **Insert Disk** dialog box will appear.

Click **[OK]**.

MEMO

The **Insert Disk** dialog may not appear. In that case, proceed to the next step.

15 The **Files Needed** dialog box will appear.

Input the following into the **"Copy files from"** field, and click **[OK]**.
(drive name):\DRIVER\USB_XP2K

MEMO

Specify the drive name of your CD-ROM drive.

If the **"What action do you want Windows to take?"** (Step 4) setting was not set to **"Ignore"**, a **"Hardware Installation"** dialog box will appear.

If "What action do you want Windows to take?" is set to "Warn"

A dialog box with a **"!"** symbol will appear.

1. Click **[Continue Anyway]**.
2. Continue the installation.

16 The screen will indicate **"Completing the Found New Hardware Wizard"**.

Make sure that the **"Model"** field indicates **"EDIROL PCR"**, Click **[Finish]**. Wait until **"Found New Hardware"** appears near the taskbar.

17 When driver installation has been completed, the **System Settings Change** dialog box will appear.

Click **[Yes]**. Windows will restart automatically.

MEMO

If the **System Settings Change** dialog box does not appear, restart Windows from the Start menu.

If you changed "What action do you want Windows to take?"

If you changed the **What action do you want Windows to take?** (p. 18) setting, restore the original setting after Windows restarts.

1. Log on to Windows using the user name of an administrative account (e.g., Administrator).
2. Click the Windows **start** menu, and from the menu that appears, select **Control Panel**.
3. In **"Pick a category,"** click **"Performance and Maintenance"**.
4. In **"or pick a Control Panel icon"**, click the **System** icon. The **System Properties** dialog box will appear.
5. Click the **Hardware** tab, and then click **[Driver Signing]**. The **Driver Signing Options** dialog box will appear.
6. Return the **What action do you want Windows to take?** setting to the original setting (either "Warn" or "Block"), and click **[OK]**.
7. Click **[OK]**. The **System properties** dialog box will close.

MEMO

Depending on how your system is set up, the **System** icon may be displayed directly in the Control Panel (classic view). In this case, double-click the **System** icon.

This completes installation of the driver.
Next, we recommend that you **enable background processing** on your computer, so MIDI processing will be as smooth as possible.(➔ **Enabling background processing** (p. 22))

■ Enabling background processing

In Windows XP, make settings to enable background processing. If you fail to make this setting, you may experience interruptions in the sound. To ensure that MIDI processing occurs smoothly, use the following procedure to make settings.

1 Open the **System Properties** dialog box.

1. Click the Windows start menu, and from the menu, select Control Panel.
2. In **"Pick a category"**, click **"Performance and Maintenance"**.
3. In **"or pick a Control Panel icon"**, click the **System** icon.

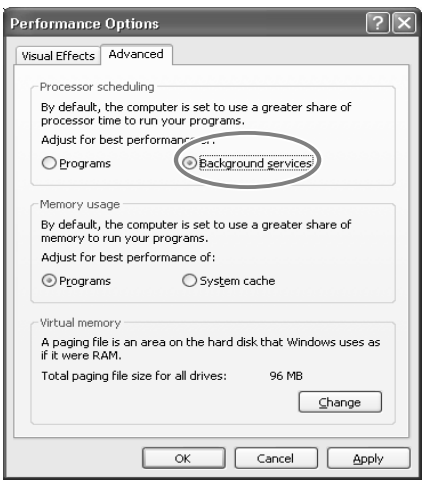
2 Click the **Advanced** tab.

3 At the right of the **Performance** field, click **[Settings]**.

The **Performance Options** dialog box will appear.

4 Click the **Advanced** tab.

5 In the **Processor Scheduling** field, select **"Background services"**, and click **[OK]**.


Performance Options
Visual Effects
Advanced
Processor scheduling
By default, the computer is set to use a greater share of processor time to run your programs.
Adjust for best performance of:
Programs
Background services
Memory usage
By default, the computer is set to use a greater share of memory to run your programs.
Adjust for best performance of:
Programs
System cache
Virtual memory
A paging file is an area on the hard disk that Windows uses as if it were RAM.
Total paging file size for all drives: 96 MB
Change
OK
Cancel
Apply

6 In the **System Properties** dialog box, click **[OK]**.

The **System Properties** dialog box will close.

Next, make device settings.
(→**Specifying the MIDI input/output destination** (p. 28))

MEMO

Depending on how your system is set up, the **System** icon may be displayed directly in the **Control Panel** (the Classic view). In this case, double-click the **System** icon.

Windows 2000 users

1

Disconnect all USB cables except for a USB keyboard and USB mouse (if used).

2

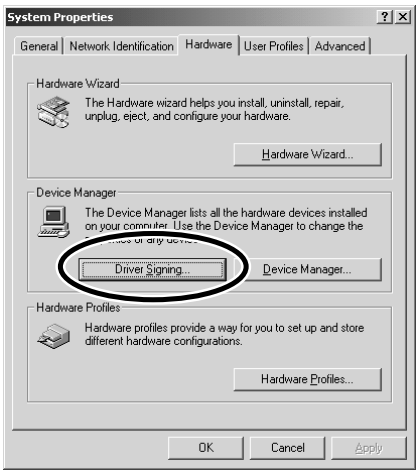
Open the **System Properties** dialog box.

Click the Windows **Start** menu, and from the menu that appears, select **Settings** | **Control Panel**. In **Control Panel**, double-click the **System** icon.

3

Click the **Hardware** tab, and then click **[Driver Signing]**.

The **Driver Signing Options** dialog box will appear.



4

Make sure that **"File signature verification"** is set to **"Ignore"**.

If it is set to **"Ignore"**, simply click **[OK]**.
If it is not set to **"Ignore"**, make a note of the current setting ("Warn" or "Block"). Then change the setting to **"Ignore"** and click **[OK]**.

5

Click **[OK]** to close the **System Properties** dialog box.

6

Exit all currently running software (applications).

Also close any open windows. If you are using virus checking or similar software, be sure to exit it as well.

7

Prepare the CD-ROM.

Insert the CD-ROM into the CD-ROM drive of your computer.

8

Click the Windows **Start** menu. From the menu that appears, select **"Run..."**

The **"Run..."** dialog box will appear.

MEMO

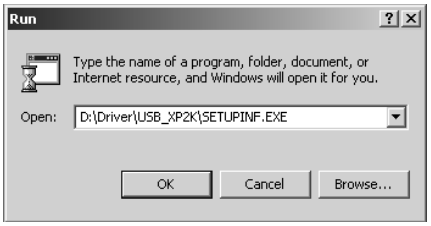
Log on to Windows as a user with administrative privileges (such as Administrator)

MEMO

If you changed **"File signature verification"**, you must restore the previous setting after you have installed the driver. (→**If you changed "File signature verification"** (p. 25))

9

In the dialog box that appears, input the following into the **"Open"** field, and click **[OK]**.



(drive name):
\Driver\USB_XP2K\SETUPINF.EXE

The **SetupInf** dialog box will appear.
You are now ready to install the driver.

* *In the explanatory example shown here, the drive name is given as "D:". The drive name **"D:"** may be different for your system. Specify the drive name of your CD-ROM drive.*

To check the drive name
In the Windows desktop, double-click the **My Computer** icon. In the window that appears, check the drive name of the CD-ROM drive into which you inserted the CD-ROM in step7.
The drive name is the (D:) or (E:) displayed by the CD-ROM drive.

10

Use the USB cable to connect the PCR to your computer.

* Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

If the **"File signature verification"** (Step 4) setting was not set to **"Ignore"**, a **"Digital Signature Not Found"** dialog box will appear.

If "File signature verification" is set to "Warn"

1. Click **[Yes]**.
2. Continue the installation.

If "File signature verification" is set to "Block"

1. Click **[OK]**.
2. When the **"Found New Hardware Wizard"** appears, click **[Finish]**.
3. Return to **step 1** (p. 23) and re-install the driver from the beginning of the procedure.

11

The **Insert Disk** dialog box will appear.

Click **[OK]**.

If the **Insert Disk** dialog box does not appear, proceed to the next step.

12

The **Files Needed** dialog box will appear.

Input the following into the **"Copy files from"** field, and click **[OK]**.
(drive name) : \DRIVER\USB_XP2K

Specify the drive name of your CD-ROM drive.

If the **"File signature verification"** (Step 4) setting was not set to **"Ignore,"** a **"Digital Signature Not Found"** dialog box will appear.

If "File signature verification" is set to "Warn"

1. Click **[Yes]**.
2. Continue the installation.

13

The screen will indicate **"Completing the Found New Hardware Wizard"**.

Make sure that the **"Model"** field indicates **"EDIROL PCR"**, Click **[Finish]**.

14

The **System Settings Change** dialog box may appear.

Click **[Yes]**. Windows will restart automatically.
If the **System Settings Change** dialog box does not appear, restart Windows from the Start menu.

MEMO

If the **System Settings Change** dialog box does not appear, restart Windows from the Start menu.

If you changed "File signature verification"

If you changed the **"File signature verification"** (p. 23) setting, restore the original setting after Windows restarts.

1. After Windows restarts, log in to Windows as a user with **administrative privileges**, (such as **Administrator**).
2. In the Windows desktop, right-click the **My Computer** icon, and from the menu that appears, select **Properties**. The **System Properties** dialog box will appear.
3. Click the **Hardware** tab, and then click **[Driver Signing]**. The **Driver Signing Options** dialog box will appear.
4. Return the **"File signature verification"** setting to the original setting (either "Warn" or "Block"), and click **[OK]**.
5. Click **[OK]**. The **System Properties** dialog box will close.

This completes installation of the driver.
Next, we recommend that you enable background processing on your computer, so MIDI processing will be as smooth as possible.
(→ **Enabling background processing** (p. 26))

■ Enabling background processing

In Windows 2000, make settings to enable background processing. If you fail to make this setting, you may experience interruptions in the sound. To ensure that MIDI processing occurs smoothly, use the following procedure to make settings.

1

Click the Windows **Start** menu, and from the menu that appears, select **Settings** | **Control Panel**. In **Control Panel**, double-click the **System** icon.

2

Click the **Advanced** tab.

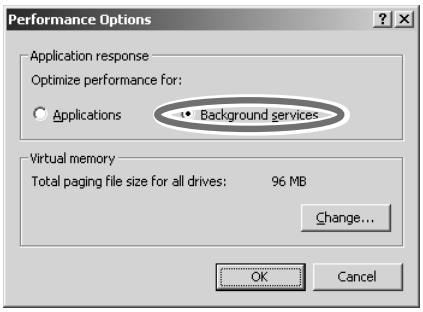
3

At the right of the **Performance** field, click **[Performance Options]**.

The **Performance Options** dialog box will appear.

4

In the **Application response** field, choose **"Background services"** and click **[OK]**.



5

Click **[OK]** to close the **System Properties** dialog box.

Next, make device settings.
(→**Specifying the MIDI input/output destination** (p. 28))

Windows Me/98 users

1

With the PCR disconnected, start up Windows.

Disconnect all USB cables except for a USB keyboard and USB mouse (if used).
If you are using virus checking or similar software, be sure to exit it as well.

2

Exit all currently running software (applications).

Also close any open windows. If you are using virus checking or similar software, be sure to exit it as well.

3

Prepare the CD-ROM.

Insert the CD-ROM into the CD-ROM drive of your computer.

4

Click the Windows **Start** menu. From the menu that appears, select **Run...**.

The **"Run..."** dialog box will appear.

5

In the dialog box that appears, input the following into the **"Open"** field, and click **[OK]**.

(drive name) : \Driver\USB_ME98\SETUPINF.EXE

The **SetupInf** dialog box will appear.
You are now ready to install the driver.

* *In the explanatory example shown here, the drive name is given as **"D:"**. The drive name **"D:"** may be different for your system. Specify the drive name of your CD-ROM drive.*

6

Use the USB cable to connect the PCR to your computer.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

The driver will be installed automatically.

7

In the SetupInf dialog box, click **[OK]**.

Next, make device settings.
(→**Specifying the MIDI input/output destination** (p. 28))

MEMO

To check the drive name
In the Windows desktop, double-click the **My Computer** icon. In the window that appears, check the drive name of the CD-ROM drive into which you inserted the CD-ROM in step3.
The drive name is the (D:) or (E:) displayed by the CD-ROM drive.

MEMO

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

MEMO

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

MEMO

If a message recommends that you restart Windows, restart Windows as directed.

Settings and checking

■ Specifying the MIDI input/output destination

Windows XP users

* *These settings are valid only when using the PCR as a MIDI interface. For details on connections, refer to "**USB connections with your computer**"(p. 43).*

1

Open **Control Panel**.

Click the Windows **start** menu, and from the menu that appears, select **Control Panel**.

2

Open the **Sounds and Audio Devices Properties** dialog box.

In **"Pick a category"** click **"Sound, Speech, and Audio Devices"**. Next, in **"or pick a Control Panel icon"**, click the **sounds and Audio Devices** icon.

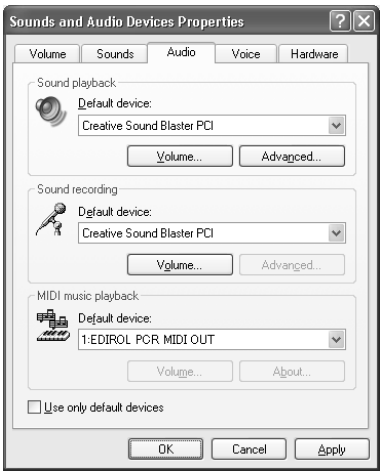
3

Click the **Audio** tab.

4

For **MIDI music playback**, click the ▼located at the right of **[Default device]**, and select **[EDIROL PCR MIDI OUT]** from the list that appears.

If you want to use Media Player to play a sound module connected to the PCR's MIDI OUT connector, select **EDIROL PCR MIDI OUT**.



5

Close the **Sounds and Audio Devices Properties** dialog box.

Click **[OK]** to complete the settings.

MEMO

Depending on how your system is set up, the **Sounds and Audio Devices** icon may be displayed directly in the **Control Panel** (the Classic view). In this case, double-click the **Sounds and Audio Devices** icon.

MEMO

For details on the PCR's input/output devices, refer to **Input / output devices** (p. 45)

MEMO

Select the appropriate MIDI device for your system. You do not necessarily have to select **EDIROL PCR MIDI OUT**.

This completes settings for using the PCR with an application that uses the standard Windows device settings, such as Media Player.
For details on how to make these settings, refer to the owner's manual for your software.
For details on the PCR's input/output devices, refer to **Input / output devices** (p. 45).

Windows 2000 / Me users

* *These settings are valid only when using the PCR as a MIDI interface. For details on connections, refer to "**USB connections with your computer**"(p. 43).*

1

Open **Control Panel**.

Click the Windows **Start** menu, and from the menu that appears, select **Settings** | **Control Panel**.

2

Open the **Sounds and Multimedia Properties**.

In **Control Panel**, double-click the **Sounds and Multimedia** icon to open the **"Sounds and Multimedia Properties"** dialog box.

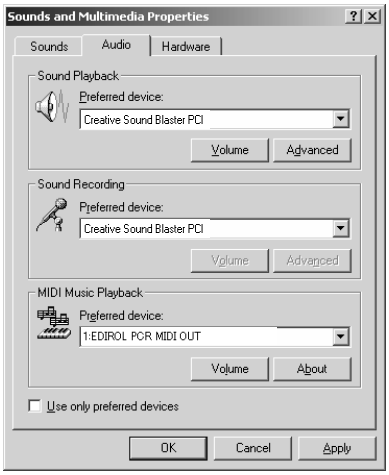
3

Click the **AUDIO** tab.

4

For **MIDI music playback**, click the ▼ located at the right of **[Preferred device]**, and select **[EDIROL PCR MIDI OUT]** from the list that appears.

If you want to use Media Player to play a sound module connected to the PCR's MIDI OUT connector, select **EDIROL PCR MIDI OUT**.



5

Close the **Sounds and Audio Devices Properties** dialog box.

Click **[OK]** to complete the settings.

MEMO

For details on the PCR's input/output devices, refer to **Input** / **output devices** (p. 45).

MEMO

Select the appropriate MIDI device for your system. You do not necessarily have to select **EDIROL PCR MIDI OUT**.

This completes settings for using the PCR with an application that uses the standard Windows device settings, such as Media Player.
For details on how to make these settings, refer to the owner's manual for your software.
For details on the PCR's input/output devices, refer to **Input** / **output devices** (p. 45).

Windows 98 users

* *These settings are valid only when using the PCR as a MIDI interface. For details on connections, refer to "**USB connections with your computer**"(p. 43).*

1

Open **Control Panel**.

Click the Windows **Start** menu, and from the menu that appears, select **Settings** | **Control Panel**.

2

Open the **Multimedia Properties** dialog box.

In **Control Panel**, double-click the **Multimedia** icon to open the **"Multimedia Properties"** dialog box.

3

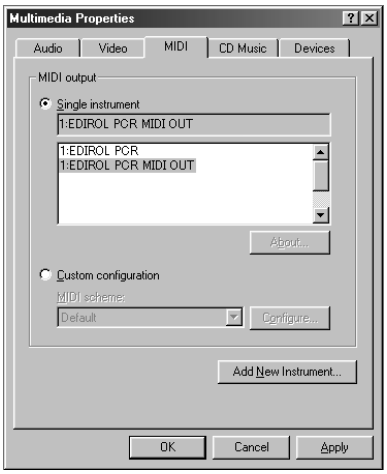
Click the **MIDI** tab.

4

Set **"MIDI output"**.

Select **[Single instrument]**, and choose **[EDIROL PCR MIDI OUT]** from the list that appears, and click **[Apply]**.

If you want to use Media Player to play a sound module connected to the PCR's MIDI OUT connector, select **EDIROL PCR MIDI OUT**.



5

Close the **Multimedia Properties** dialog box.

Click **[OK]** to complete the settings.

MEMO

For details on the PCR's input/output devices, refer to **Input** / **output devices** (p. 45)

MEMO

Select the appropriate MIDI device for your system. You do not necessarily have to select **EDIROL PCR MIDI OUT**.

This completes settings for using the PCR with an application that uses the standard Windows device settings, such as Media Player.
For details on how to make these settings, refer to the owner's manual for your software.
For details on the PCR's input/output devices, refer to **Input** / **output devices** (p. 45).

Getting Connected and Installing Drivers (Macintosh)

The installation procedure will differ depending on your system.
Please proceed to one of the following sections, depending on the system you use.

- Mac OS X users ..... (p. 31)
- Mac OS 9 users ..... (p. 34)

Mac OS X users

■ Installing the driver

1 Disconnect all USB cables other than those for your keyboard and mouse, and restart your Macintosh.

2 Prepare the CD-ROM.

Insert the CD-ROM into the CD-ROM drive of your computer.

3 In the **Driver (Mac OS X)** folder of the CD-ROM, double-click **PCRUSBDriver.pkg.**

4 The display will indicate **"Welcome to the EDIROL PCR USB Driver Installer"**. Click **[Continue]**.

5 The display will indicate **"Select a Destination"**.

Click the drive in which the operating system is installed to select it, and then click **[Continue]**.

6 The display will indicate **"Easy Install"**.

Click **Install** or **Upgrade**.

7 The display will indicate **"Installing this software requires you to restart your computer when the installation is done"**.

Click **[Continue Installation]**.

8 The display will indicate **"The software was successfully installed"**.

Click **[Restart]** to restart your computer.
This completes installation of the PCR driver.

9 Next, make MIDI device settings.

MEMO

If the **"Authenticate"** dialog box appears during the installation, input the password and click **"OK."**

MEMO

Select your startup disk as the drive.

MEMO

If the **"Authenticate"** dialog box appears during the installation, input the password and click **"OK."**

■ Mac OS settings

If you're using the PCR as a MIDI interface (i.e., connected to an external MIDI device), make settings as described below. For a connection diagram, refer to "**USB connections with your computer**" (p. 43).

1

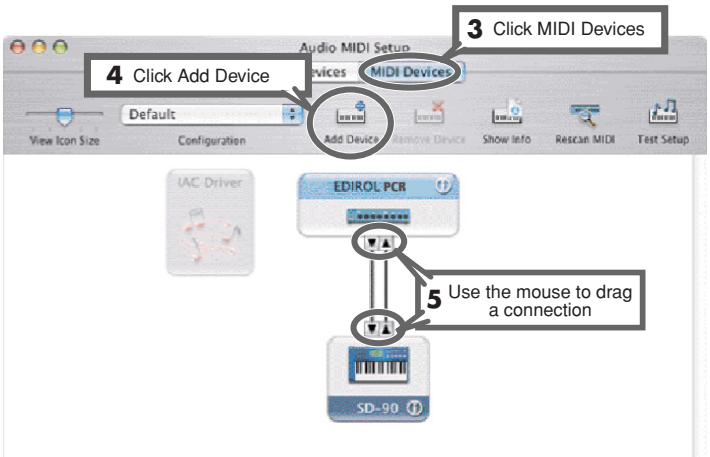
Use the USB cable to connect the PCR to your computer.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

* *Connect the cable to the USB connector of the Macintosh itself, not to the USB connector of the keyboard.*

2

Open the **Applications** folder of your Macintosh hard disk. In the **Utilities** folder, double-click **Audio MIDI Setup** to open the **Audio MIDI Setup**.



3

Click the **MIDI Devices** tab.

4

Click **Add Device**.

New external device will appear.

5

Connect the ▼ and ▲ symbols (which signify the outputs and inputs) of the **EDIROL PCR** icon to those of the **New External Device** icon by using the mouse to drag between them.

* *Change icons and set other items according to the MIDI devices that are connected to the PCR's MIDI connectors. If you double-click* ***new external device****, the* ***new external device Properties*** *dialog box will appear, allowing you to specify a variety of things, such as the device name.*

MEMO

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

MEMO

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

■ Software settings

1

Use the USB cable to connect the PCR to your computer.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

* *Connect the cable to the USB connector of the Macintosh itself, not to the USB connector of the keyboard.*

2

Make MIDI device settings on your sequencer software.
For details on the PCR's input/output devices, refer to **Input / output devices** (p. 45).

MEMO

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

MEMO

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

MEMO

For details on MIDI device settings, refer to the owner's manual for the software you are using.

When using the PCR with your software

Before using the PCR with your software, please note the following points.

- Use the USB cable to connect the PCR to your computer before you start up your software.
- Do not disconnect the USB cable from the PCR while your software is running.
- Quit your software before you disconnect the USB cable from the PCR.
- Turn off the Sleep function of your Macintosh.
- The PCR will not operate in the Mac OS X Classic environment. Use the PCR when the Classic environment is not running.

Mac OS 9 users

■ Installing the driver

Use either OMS or FreeMIDI as the MIDI driver.

The included **PCR driver** is an add-on module for using the PCR with OMS or FreeMIDI.

* *Either OMS or FreeMIDI must be installed in your Macintosh, as appropriate for the sequencer software you are using.*

If a PCR is already connected to your Macintosh when you install the driver, a message like the following will appear when the Macintosh is started up. Perform the steps described below as appropriate for the message that is displayed.

If the screen indicates:

"Software needed for the USB device "PCR" is not available. Would you like to look for the software on the Internet?" → click **[Cancel]**.

If the screen indicates:

"The software needed to use the USB device "PCR" cannot be found. Please refer to the device documentation to install the necessary software".

→ click **[OK]**.

Use the following procedure to install the PCR driver.

1 Exit all currently running software (applications).

If you are using a virus checker or similar software, be sure to exit this as well.

2 Prepare the CD-ROM.Insert the CD-ROM into the CD-ROM drive.

3 Double-click the **PCR Driver-E Installer** icon (found in the **Driver E (Mac OS 9)** folder of the CD-ROM) to start up the installer.

4 Verify the **Install Location**, and click **[Install]**.

5 If a message like the following is displayed, click **[Continue]**.

The other currently running applications will exit, and installation will continue.

This installation requires your computer to restart after installing this software. Click Continue to automatically quit all other running applications. Click Cancel to leave your disks untouched.
Cancel
Continue

6 A dialog box will indicate **Installation was successful**.

Click **[Restart]** to restart your Macintosh.

MEMO

OMS can be found in the **OMS 2.3.8 E** folder within the **OMS (Mac OS 9)** folder of the CD-ROM. If you would like to know more about OMS, refer to **OMS_2.3_Mac.pdf** which can be found in the same folder.

MEMO

If you install OMS or FreeMIDI after installing the PCR driver, you must install the PCR driver once again.

MEMO

Disconnect the PCR from the Macintosh before you perform the installation.

NOTE

The installation location will be shown differently depending on your system. Make sure that you have selected the startup disk for the system you are currently using.

■ Setting the driver

If you are using FreeMIDI, proceed to **FreeMIDI settings** (p. 38).

OMS settings

1

Use the USB cable to connect the PCR to your computer.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

* *Connect the cable to the USB connector of the Macintosh itself, not to the USB connector of the keyboard.*

2

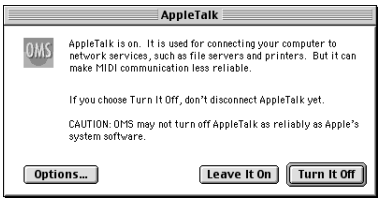
From the CD-ROM, drag the **Driver E (Mac OS 9) - OMS Setting** folder into the **Opcode - OMS Applications** folder on the hard disk of your Macintosh to copy it there.

3

In the **Opcode - OMS Applications** folder where you installed OMS, double-click **OMS Setup** to start it up.

4

If a dialog box like the one shown here appears, click **[Turn It Off]**. A **confirmation** dialog box will then appear, so click **[OK]**.


AppleTalk
OMS
AppleTalk is on. It is used for connecting your computer to network services, such as file servers and printers. But it can make MIDI communication less reliable.
If you choose Turn It Off, don't disconnect AppleTalk yet.
CAUTION: OMS may not turn off AppleTalk as reliably as Apple's system software.
Options...
Leave It On
Turn It Off

5

The **Create a New Studio Setup** dialog box will appear. Click **[Cancel]**.

If you accidentally clicked **[OK]**, click **[Cancel]** in the next screen.

Create a New Studio Setup
A studio setup document is a list of your MIDI devices and cables between them.
You use it to tell applications what's in your studio.
Click OK to have OMS automatically locate your MIDI devices and build a new studio setup document.
Cancel
OK

MEMO

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

MEMO

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

MEMO

If you are using the PCR in conjunction with other MIDI devices, make settings as described in **Readme_E.htm** located in the **Driver E (Mac OS 9)** folder of the CD-ROM.

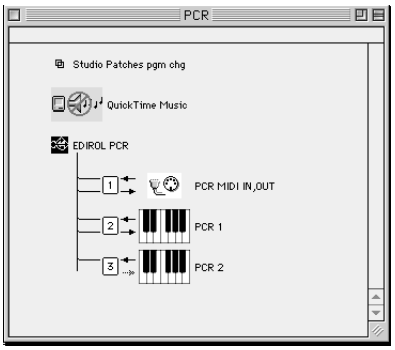
MEMO

We recommend that you turn off **AppleTalk**, by selecting Chooser from the Apple menu.

6

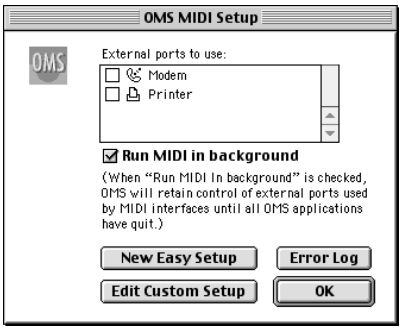
Choose **"Open"** from the **File** menu.

From the **OMS Setting** folder that you copied in **step 3**, select the **PCR** file, and click **[Open]**.
A screen like the one shown here will appear.



7

From the **Edit** menu, select **OMS MIDI Setup**.
In the **OMS MIDI Setup** dialog box that appears, check **Run MIDI in background**, and click **[OK]**.

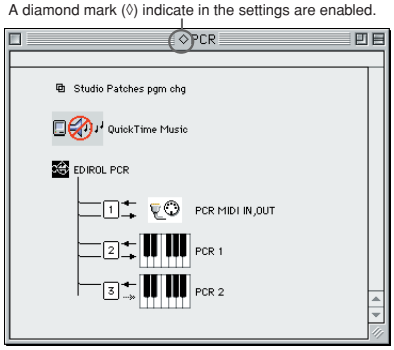

OMS MIDI Setup
OMS
External ports to use:
Modem
Printer
Run MIDI in background
(When "Run MIDI In background" is checked, OMS will retain control of external ports used by MIDI interfaces until all OMS applications have quit.)
New Easy Setup
Error Log
Edit Custom Setup
OK

8

From the **File** menu, choose **Make Current**.

* *If you are unable to select **Make Current**, it has already been applied, and you may continue to the next step.*

A diamond mark (◊) indicate in the settings are enabled.

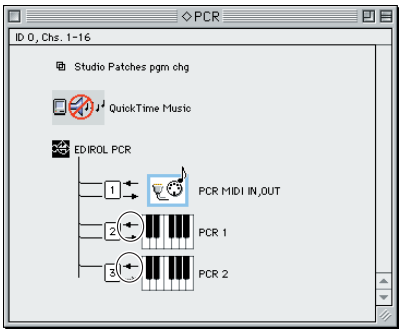


9

Verify that MIDI transmission and reception can be performed correctly.
From the **Studio** menu, choose **Test Studio**.

10

Try moving the fader of the PCR. If the arrow beside number **2** or **3** in the diagram at right blinks, the settings have been made correctly.
When you move the mouse cursor near the MIDI connector icon, the cursor will change to a ♪ shape.
If a MIDI sound module is connected to the PCR's MIDI OUT connector, click the MIDI connector icon shown in the diagram at the right. If you hear sound, the settings have been made correctly.



11

Exit **OMS Setup**.

From the **File** menu, choose **[Exit]**. If the **AppleTalk confirmation** dialog box appears, click **[OK]** to close the dialog box.

This completes installation of the driver.
Next, make MIDI device settings in your sequencer or other software.
For details on how to make these settings, refer to the owner's manual for your software.
For details on the PCR's input / output devices, refer to **Input / output devices** (p. 45).

MEMO

For details on the PCR's input/output devices, refer to **Input / output devices** (p. 45).

FreeMIDI settings

1

Use the USB cable to connect the PCR to your computer.

1. Set the PCR's power switch to the **"OFF"** position.
2. Use the USB cable to connect the PCR to your computer.
3. Set the PCR's power switch to the **"USB"** position.

* *Connect the cable to the USB connector of the Macintosh itself, not to the USB connector of the keyboard.*

2

From the CD-ROM, drag the **Driver E (Mac OS 9) - FreeMIDI Setting** folder into the **FreeMIDI Applications** folder on the hard disk of your Macintosh to copy it there.

3

Open the **FreeMIDI Applications** folder from the location into which you installed **FreeMIDI**, and double-click the **FreeMIDI Setup** icon to start it up.

4

The first time you start up, use the following procedure.

1. A dialog box saying **"Welcome to FreeMIDI!"** will appear.
   Click **[Continue]**.
2. The **FreeMIDI Preferences** dialog box will appear.
   Click **[Cancel]**.
3. The **About Quick Setup** dialog box will appear.
   Click **[Cancel]**.

5

From the **File** menu, choose **Open**.

6

Select **PCR** from the **FreeMIDI Setting** folder you copied in **step 3**, and click **[Open]**.

7

Verify that MIDI transmission and reception occur correctly.

From the **MIDI** menu, choose **Check Connections**.

MEMO

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

MEMO

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

MEMO

If you are using the PCR in conjunction with other MIDI devices, make settings as described in **Readme_E.htm** located in the **Driver E (Mac OS 9)** folder of the CD-ROM.

MEMO

When "**OMS is installed on this computer...**" appears, click **[FreeMIDI]**.

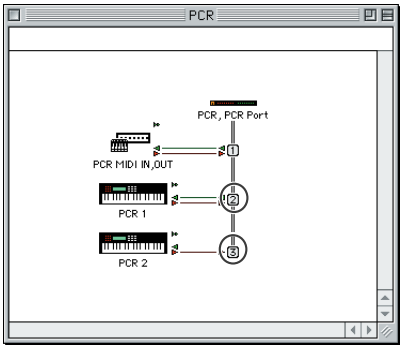
MEMO

If you are unable to select **Open**, make settings as follows.

1. From the **File** menu, choose **FreeMIDI Preference**.
2. Uncheck "**Use OMS when available.**"
3. Close FreeMIDI.
4. Return to step 4 and continue the procedure.

8

Try moving the fader of the PCR. If the number **2** or **3** in the diagram at right changes to a ♪ shape, the settings have been made correctly. If a MIDI sound module is connected to the PCR's MIDI OUT connector, click the MIDI connector icon shown in the diagram at the right. If you hear sound, the settings have been made correctly.



9

Once again choose the **MIDI** menu command **Check Connections** to end the test.

10

From the **File** menu, choose **Quit** to exit **FreeMIDI Setup**.

This completes installation of the driver.
Next, make MIDI device settings in your sequencer or other software.
For details on how to make these settings, refer to the owner's manual for your software.
For details on the PCR's input/output devices, refer to **Input / output devices** (p. 45).

MEMO

For details on the PCR's input/output devices, refer to **Input / output devices** (p. 45).

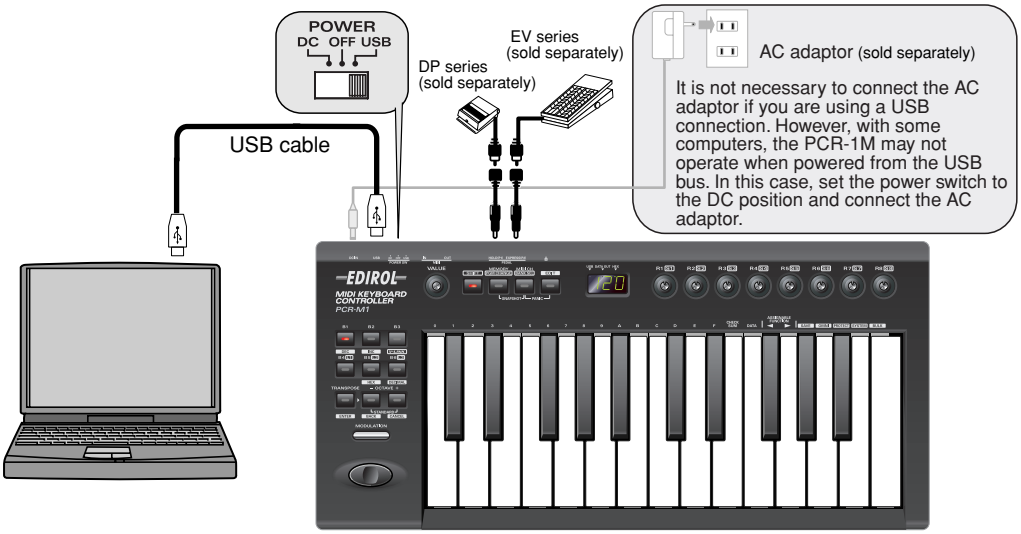
Memo

Operation

The PCR-M1 is a controller that transmits MIDI messages. You cannot perform using only the PCR-M1 by itself. You will need to connect it to a sound module or computer.
The various controllers ([R1–R8], [S1–S8], [B1–B6], [L1–L3], [P1, P2]) can be assigned almost any message you want to get the control you need for your particular setup. For details on the messages that can be assigned, refer to **Assign MIDI messages (EDIT)** (p. 58).

Basic connections and MIDI flow

USB connections with your computer
– Sending MIDI messages to your application –

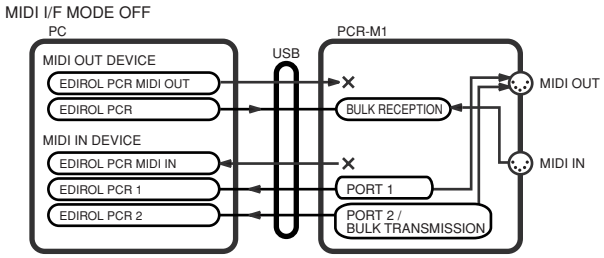

POWER
DC OFF USB
EV series
(sold separately)
DP series
(sold separately)
AC adaptor (sold separately)
It is not necessary to connect the AC adaptor if you are using a USB connection. However, with some computers, the PCR-1M may not operate when powered from the USB bus. In this case, set the power switch to the DC position and connect the AC adaptor.
USB cable
EDIROL
MIDI KEYBOARD CONTROLLER
PCR-M1

* *To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.*

* Use only the specified expression pedal (EV Series; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

■ MIDI flow

Turn MIDI I/F MODE OFF as described in "MIDI I/F MODE" (p. 94).



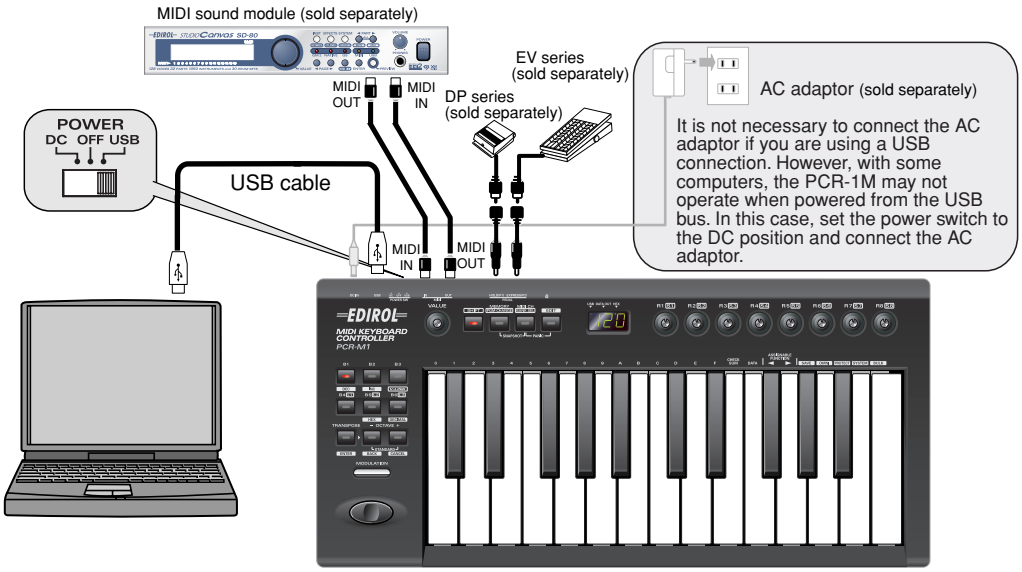
BULK RECEPTION	BULK data is received here
PORT 1	Of the keyboard, pitch bender, and other controllers, those that have been set to PORT 1 will transmit data from here
PORT 2	Of the keyboard, pitch bender, and other controllers, those that have been set to PORT 2 will transmit data from here
BULK TRANSMISSION	BULK data is transmitted from here

* *For an explanation of the items in the diagram, refer to* ***Input / output devices*** *(p. 45).*

* *For more about BULK data, refer to "****Bulk dump****" (p. 87).*

USB connections with your computer
– Using the PCR-M1 as a MIDI interface –

* *If you want to use Media Player to play a sound module connected to the PCR's MIDI OUT connector, make driver settings as described in "**Specifying the MIDI input/output destination**"(p. 28).*

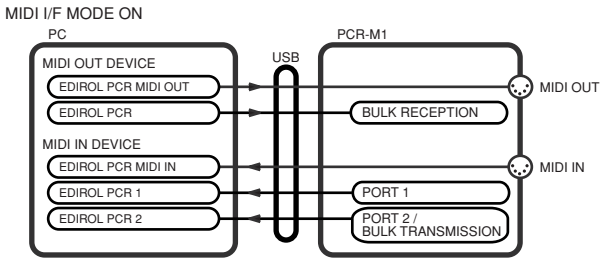

MIDI sound module (sold separately)
EV series
(sold separately)
MIDI
OUT
MIDI
IN
DP series
(sold separately)
AC adaptor (sold separately)
It is not necessary to connect the AC adaptor if you are using a USB connection. However, with some computers, the PCR-1M may not operate when powered from the USB bus. In this case, set the power switch to the DC position and connect the AC adaptor.
POWER
DC OFF USB
USB cable
MIDI
IN
MIDI
OUT
EDIROL
MIDI KEYBOARD CONTROLLER
PCR-M1

* *To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.*

* Use only the specified expression pedal (EV Series; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

■ MIDI flow

Turn MIDI I/F MODE ON as described in "MIDI I/F MODE" (p. 94).

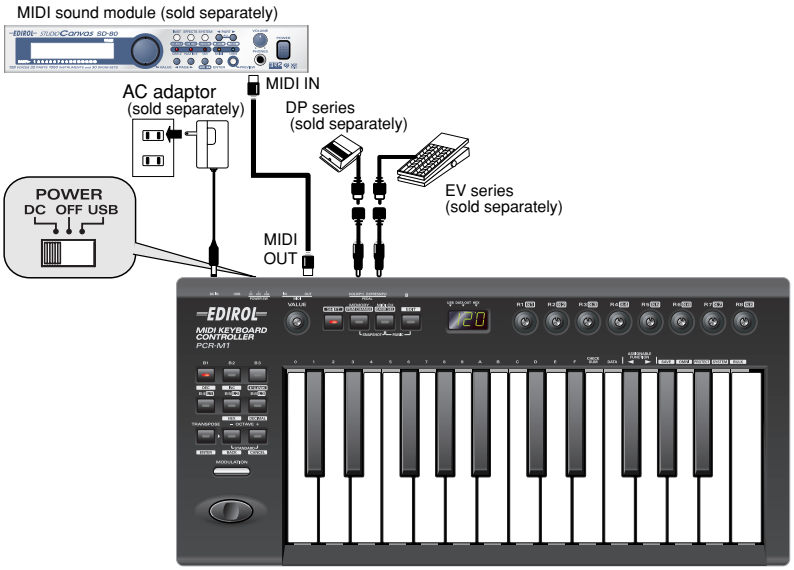


BULK RECEPTION	BULK data is received here
PORT 1	Of the keyboard, pitch bender, and other controllers, those that have been set to PORT 1 will transmit data from here
PORT 2	Of the keyboard, pitch bender, and other controllers, those that have been set to PORT 2 will transmit data from here
BULK TRANSMISSION	BULK data is transmitted from here

* *For an explanation of the items in the diagram, refer to **Input / output devices** (p. 45).*

* *For more about BULK data, refer to "**Bulk dump**" (p. 87).*

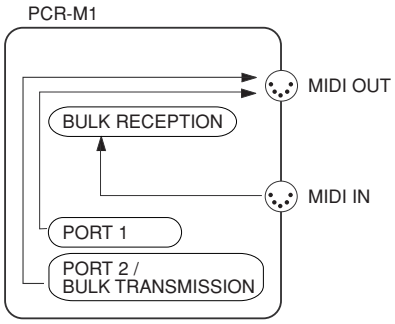
When using a MIDI connection



* *If there are batteries in the unit while an AC adaptor is being used, normal operation will continue should the line voltage be interrupted (power blackout or power cord disconnection).*

* Use only the specified expression pedal (EV Series; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

■ MIDI flow



BULK RECEPTION	BULK data is received here
PORT 1	Of the keyboard, pitch bender, and other controllers, those that have been set to PORT 1 will transmit data from here
PORT 2	Of the keyboard, pitch bender, and other controllers, those that have been set to PORT 2 will transmit data from here
BULK TRANSMISSION	BULK data is transmitted from here

* *For an explanation of the items in the diagram, refer to* ***Input / output devices*** *(p. 45).*

* *For more about BULK data, refer to "****Bulk dump****" (p. 87).*

Input / output devices

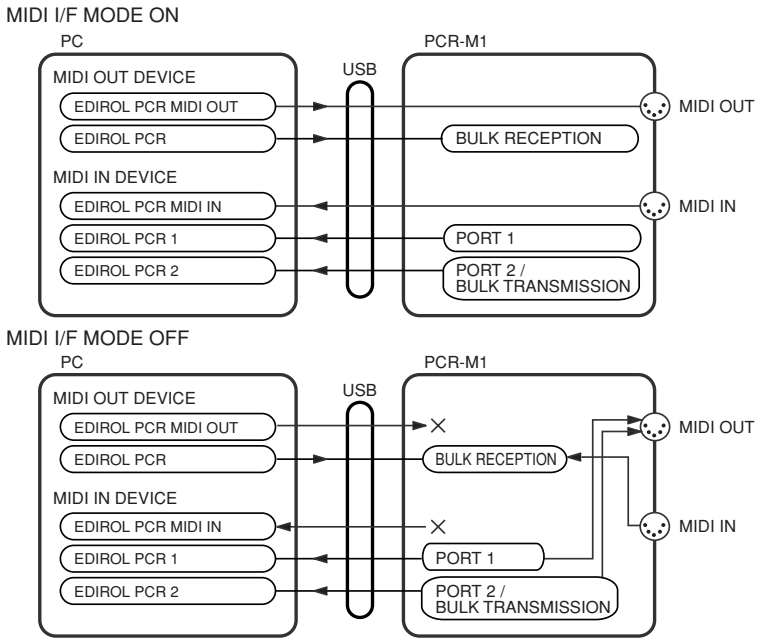
In order to obtain the best performance from your software, you must make the appropriate input/output device settings.

For details on these settings, refer to the owner's manual for your software.

* *If you are unable to select the PCR-M1 in the device settings for your software, it is possible that the driver was not installed correctly. Please reinstall the driver.*

MIDI Devices

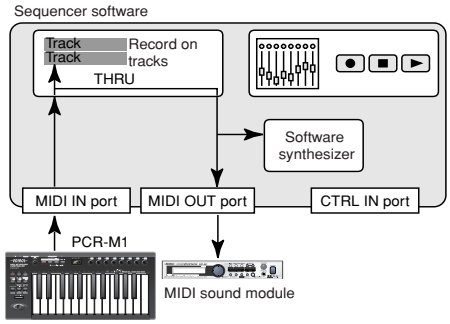
MIDI OUT device	
PCR MIDI OUT (Mac OS 9: PCR MIDI IN, OUT)	
	If you specify **PCR MIDI OUT** as the output port for your sequencer software, messages will be transmitted from the MIDI OUT connector of the PCR-M1 itself. *** Turn MIDI I/F MODE ON as described in "MIDI I/F MODE" (p. 94).**
PCR (Mac OS 9: PCR 1)	
	This is the bulk reception port. When receiving bulk data into the PCR-M1, select **PCR** as the output port for your sequencer software or other program.
MIDI IN device	
PCR MIDI IN (Mac OS 9: PCR-A MIDI IN, OUT)	
	If you specify **PCR MIDI IN** as the input port for your sequencer software, messages will be input from the PCR-M1's MIDI IN connector. *** Turn MIDI I/F MODE ON as described in "MIDI I/F MODE" (**p. 94**)**
PCR 1 **PCR 2**	
	These ports receive messages from the keyboard, PITCH Bender, and controllers. The port assignment determines how the keyboard, PITCH Bender, and controllers are mapped to **PCR 1** or **PCR 2**. You may find it convenient to select **PCR 1** for messages used for real-time performance on a software synthesizer or for recording on a sequencer track, and select **PCR 2** for messages used to control a sequencer (e.g., sequencer start/stop, or track fader control). **PCR 2** is also the bulk transmission port. When transmitting bulk data from the **PCR-M1**, select **PCR 2** as the input port for your sequencer software.



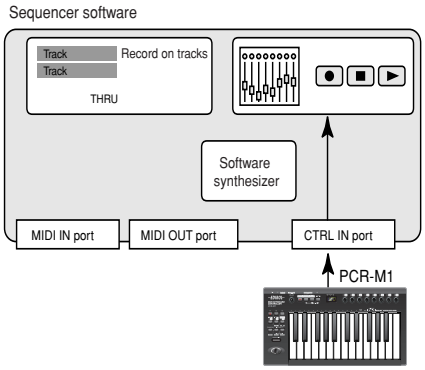
Two MIDI ports

* *Two MIDI ports are available only when using a USB connection (p. 42–43). When using a MIDI connection (p. 44), the two ports are merged (combined into one) for output.*

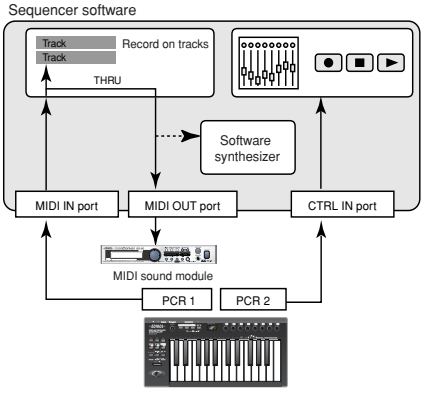
Some sequencer software that supports MIDI controllers lets you independently specify the MIDI input port used for recording MIDI tracks (the "MIDI IN port") and the MIDI input port used to control the software (the "CTRL IN port").



Normally, you will connect your MIDI keyboard to the MIDI IN port, and use it for recording your performance on tracks or using the MIDI Thru function of your software to play sound modules or soft synthesizers. The MIDI messages sent here have the meaning that is assigned to them by the MIDI specification. In other words, when you play the keyboard, note messages will be transmitted and recorded on the track, and the sound module that receives these messages will produce sound.



In contrast, the data received from the CTRL IN port is used to operate your software in the same way as data from your computer's mouse or keyboard; it will not be recorded on the tracks or "thru-ed" to your sound module or soft synthesizer. The MIDI messages sent here are interpreted in a completely different way than defined in the MIDI specification.
For this reason, messages that are input from the CTRL IN port are not normally "thru-ed" to your sound module or soft synthesizer.
For example, even if you play your keyboard to send a note-on message, the software that receives this message will not produce a note; instead, it might interpret this message as meaning that the PLAY/STOP button had been pressed.
The actual operation that will occur will depend on the software you are using.



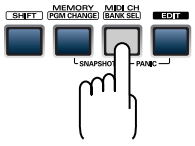
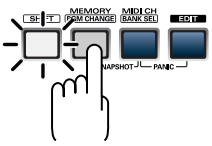
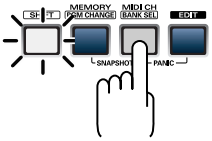
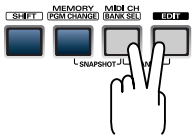
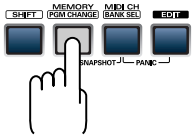
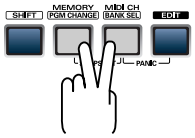
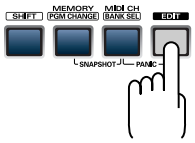
Since the same MIDI message can be interpreted in completely different ways, as described above, the software lets you specify the MIDI IN port and CTRL IN port separately so that the two types can be distinguished.
When the PCR-M1 is connected via USB, you can select either of the two MIDI ports (PCR 1, PCR 2) as the output destination for MIDI messages produced by the knobs, and buttons of the PCR-M1.
In other words, by assigning "PCR 1" as your software's MIDI IN port and "PCR 2" as its CTRL IN port, you can do things like using the button operations to control mixer operations in your software while using the knobs to edit your software synthesizer.

The output destination of the MIDI messages transmitted when you operate the PCR-M1's knobs, and buttons can be specified separately for each controller. (**Assign MIDI messages (EDIT)** (p. 58))

Use MIDI functionality

Table of operating modes

You can switch modes at any time, as shown below.

Mode	Switching modes	Explanation
PLAY mode (p. 48)	When you turn on the power, the PCR-M1 will start up in PLAY mode.	Transmit MIDI messages by playing the keyboard or operating the controllers.
MIDI Channel mode (MIDI CH) (p. 50)	Press the **[MIDI CH]** . 	Set the transmit channel (**current channel** p. 50) for the keyboard, modulation controller and pitch bender.
Program Change mode (PROGRAM CHANGE) (p. 53)	Press the **[SHIFT]** so it is lit, and then press the **[PGM CHANGE]**. 	Transmit program change messages on the **current channel** (p. 50).
Bank mode (BANK) (p. 54)	Press the **[SHIFT]** so it is lit, and then press the **[BANK SEL]**. 	Transmit bank select messages (MSB, LSB) on the **current channel** (p. 50).
Panic mode (PANIC) (p. 55)	Simultaneously, Press the **[MIDI CH]** and the **[EDIT]**. 	Stop "stuck" notes or other problems with the sound on a connected MIDI sound module.
Memory mode (MEMORY) (p. 56)	Press the **[MEMORY]**. 	Recall a memory set from internal memory into the **current memory** (p. 86).
Snapshot mode (SNAPSHOT) (p. 57)	Simultaneously, Press the **[MEMORY]** and the **[MIDI CH]** 	Transmit the current values of controllers (**[R1–R8]** or **[S1–S8]**) at once.
Edit mode (EDIT) (p. 58)	Press the **[EDIT]** . 	Assign MIDI messages to the controllers, transmit/receive bulk data, or make system settings.

You are returned to Play mode once a setting or a process has been completed within the other modes. If you want to return to Play mode without completing a setting or operation, press the button for the current mode (i.e., the button that is lit). Alternatively, press the **[CANCEL]** button. The setting you were in the process of making will be discarded.

Startup mode

■ PLAY mode

When you power up the PCR-M1, it will start up in PLAY mode.
In PLAY mode, playing the keyboard will transmit note messages to play the connected MIDI device.
The display will show the **current channel** (p. 50).
In PLAY mode, you can play the keyboard to produce sound on a connected sound module, and also use various other functions, such as operating the PITCH Bender to change the pitch of the currently sounding note (Pitch Bend), using the modulation controller to add vibrato (Modulation), or switching the octave (Octave Shift).

In order to send MIDI messages from the PCR-M1 to your application, perform the following steps.

1

Set the MIDI channel the PCR-M1 will use to transmit to the same channel on the application is using to receive on.

Use MIDI Channel mode to set the **MIDI transmit channel**.
(→ **MIDI Channel mode (MIDI CH)** (p. 50)).

2

Select a **sound** on your **MIDI sound module**.

(→ **Selecting Sounds on a Sound Module (Sending Program Change / Bank Select Massages)** (p. 52)).

3

Once you have finished making settings, try playing the keyboard.

When you play the keyboard in **PLAY mode**, MIDI messages are sent to the application.

* *Since the PCR-M1 does not contain a sound generator, you cannot play MIDI data using the PCR-M1 alone.*

* *The "VALUE ENCODER" setting (p. 95) is valid only in PLAY mode*
In other modes, the VALUE encoder has the same function as the "INC/DEC" buttons (p. 14).

Features Useful When Playing

Applying Pitch Changes to Notes (Pitch Bend)	Move the **PITCH Bender** (left or right) to transmit **Pitch Bend** messages, and apply subtle pitch changes to notes. Pressing the left side of the pitch bender will lower the pitch, and pressing the right side will raise the pitch. Pressing the pitch bender strongly will produce a deeper pitch bend, and pressing it gently will produce a shallower pitch bend. * The amount of pitch change ("bend range") depends on the settings of your sound module.
Modifying the Sound of Notes (Modulation)	Pressing the **Modulation Controller** will transmit **Modulation** messages, changing the sound in real time (usually by adding a vibrato effect). Pressing the modulation controller strongly will produce deeper modulation, and pressing it gently will produce shallower modulation. * The type of change this produces in the sound depends on the settings of your sound module.
Changing Octaves (Octave Shift)	You can press **[OCTAVE -]** or **[OCTAVE +]** to raise or lower the pitch range of the keyboard (the Octave Shift function). This lets you play a wider range of notes than would normally be accessible from the 25 keys. Press **[OCTAVE -]** once to lower the pitch range one octave. Press it once again to lower the range an additional octave. Permissible settings for this range from -4 to 5 octaves. * **[OCTAVE -]** or **[OCTAVE +]** will light according to the current Octave Shift setting. * If you simultaneously press **[OCTAVE -]** and **[OCTAVE +]** , the Octave Shift setting will be reset to 0, restoring the normal pitch range of the keyboard.
Transpose the Pitch of the Keyboard (Transpose)	You can press **[TRANSPOSE]** + **[OCTAVE +]** or **[TRANSPOSE]** + **[OCTAVE -]** to transpose the keyboard in semitone steps (the Transpose function). You can transpose the pitch in a range of -12–12 (semitones). * If you press and hold **[TRANSPOSE]**, **[OCTAVE -]** or **[OCTAVE +]** will light according to the current Transpose setting. * If you hold down **[TRANSPOSE]** and simultaneously press **[OCTAVE -]** and **[OCTAVE +]**, the Transpose setting will be reset to 0.

MEMO While playing the keyboard, move the PITCH Bender to the left to lower the pitch of the currently selected patch, or to the right to raise its pitch. This is known as **pitch bend**.
You can also apply vibrato by gently pressing the Modulation Controller. This is known as **modulation**.
If you press the Modulation Controller and the same time move PITCH Bender to the right or left, you can apply both effects at once.

MEMO **Octave Shift** and **Transpose** can be set independently.

To switch the PCR-M1 to PLAY mode...

When you turn on the power, the PCR-M1 will start up in PLAY mode.
To return to PLAY mode from another mode (→**Setting the MIDI Transmit Channel** (p. 50)), press the button of the current mode (i.e., the button that is lit).
Alternatively, you can press the **[CANCEL]** button. In this case, the setting you had been making will be cancelled.

Setting the MIDI Transmit Channel

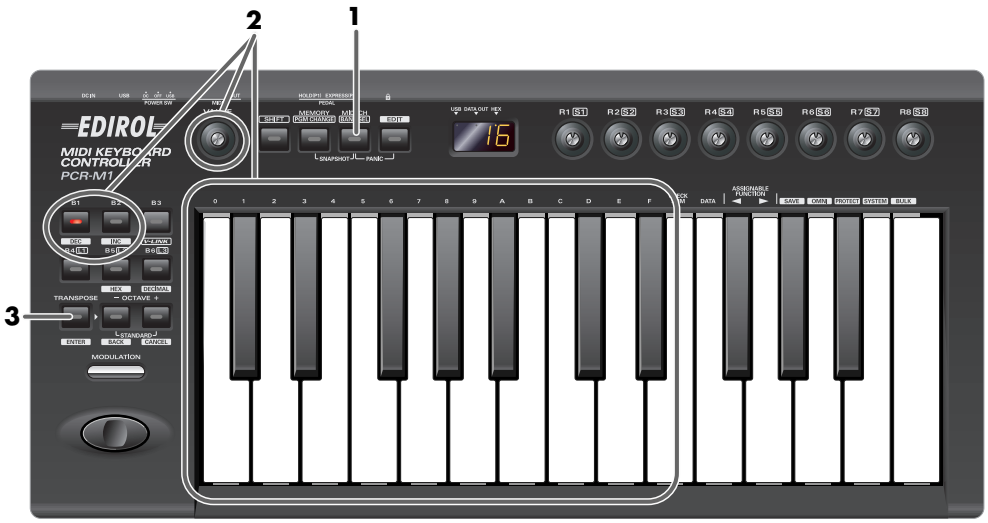
To control your sound module, set the PCR-M1's **current channel** to the MIDI receive channel that's selected on your sound module. Use MIDI Channel mode to set the **current channel**.

Current channel

The "current channel" is the transmit channel for the keyboard, PITCH Bender, and modulation controller.

* *Each controller has its own independent transmit channel setting.*
*However, if **OMNI** mode (p. 51) is on, the controllers will also transmit on the **current channel** you specify*

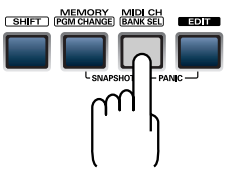
■ MIDI Channel mode (MIDI CH)



1

Press the **[MIDI CH]** button.
The **[MIDI CH]** button will light. The display will show the current channel setting.

* *The **[HEX]** or **[DECIMAL]** button will also light according to the input mode (p. 51).*



2

Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys of the keyboard to specify the desired channel number.

DEC	Change the current value by -1
INC	Change the current value by +1
00–0F	The input value **HEX**...00–0F **DECIMAL**...1–16

3

Press the **[ENTER]** button. The current channel has now been set.

* *The setting will be cancelled if you press another button instead of the **[ENTER]** button.*

OMNI

If you turn the Omni setting ON, all messages will be transmitted on the **current channel** regardless of the channel that is specified for each controller.
Also, all messages will be transmitted to the **KEYBOARD PORT SET** (p. 93) regardless of the port that is specified for each controller.

1. Press the **[EDIT]** button.
The display will indicate "EDT".

2. Press the **[OMNI]** key.
The display will blink "OMN".

3. Confirm what's indicated and press the **[ENTER]** button.

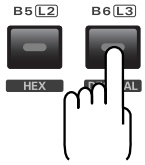
4. The display will show the current setting.

0		**OMNI OFF**	Messages will be transmitted on the channel and port specified for each controller.
1		**OMNI ON**	Messages will be transmitted on the current channel from the Keyboard Port, regardless of the channel and port specified for each controller.

5. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0]** or **[1]** keys to select the mode.

6. Press the **[ENTER]** button.

Setting the input mode



If you are not in Play mode, you can use one of two ways to input a numerical value into the PCR-M1; **Decimal input mode** or **Hexadecimal input mode**. If you want to input decimal numbers, press the **[DECIMAL]** button. If you want to input hexadecimal numbers, press the **[HEX]** button. When you turn on the power, the PCR-M1 will start up in Decimal mode.

Decimal and hexadecimal numbers correspond as follows.
Decimal:0–127
Hexadecimal:00–7F
However, for MIDI CH and PROGRAM CHANGE, the values are as follows.

	Decimal	Hexadecimal
MIDI CH	1–16	00–0F
PROGRAM CHANGE	1–128	00-7F

* *Normally, the display will show three digits when using Decimal input mode. For this reason, there will be no indication of the parameter you are now inputting, and you may lose track of what you are doing. If this occurs, you can temporarily switch back to Hexadecimal mode to check the parameter you are inputting. Then switch back to Decimal mode and continue.*

Selecting Sounds on a Sound Module (Sending Program Change / Bank Select Massages)

To select a sound on your MIDI sound module, transmit a Program Change in **Program Change mode**.

To select a sound from a different bank, first use **Bank mode** to transmit a Bank Select message that switches the bank. Then transmit a program change.

* *You must send the Bank Select message before sending the Program Change message.*

What is a bank?

MIDI sound modules organize their numerous sounds in various groups according to the category of sound.

These groups are called "banks."

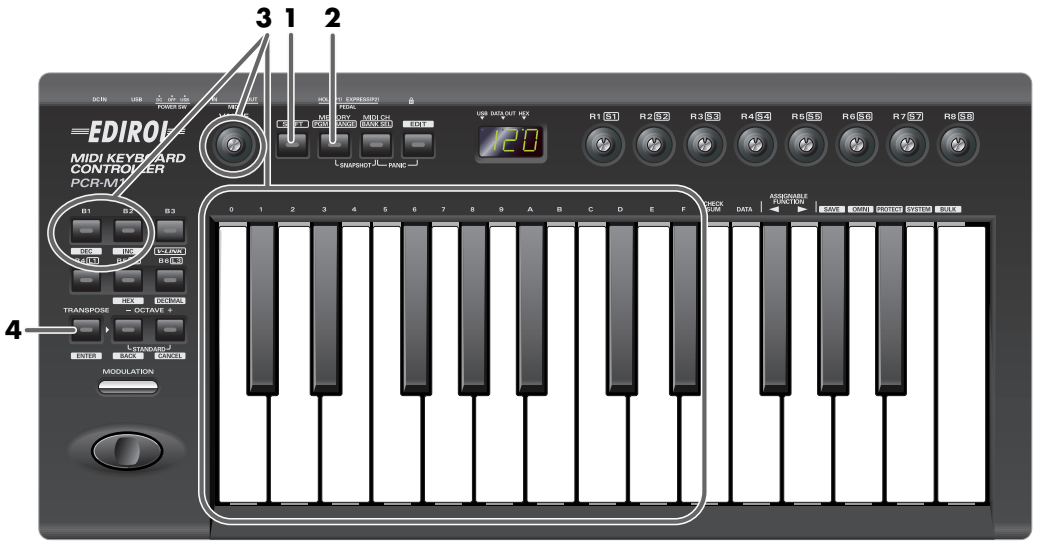
Program Change messages can only select sounds within the same bank, but by using these in conjunction with Bank Select messages, you can select different variations of sound.

* *The way in which sounds are organized will differ for each sound module. For details, refer to the owner's manual of the sound module you are using.*

- **Program Change Mode (PROGRAM CHANGE)** (p. 53)
- **Bank mode (BANK)** (p. 54)

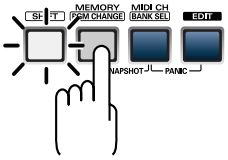
■ Program Change Mode (PROGRAM CHANGE)

This mode lets you transmit a program change message on the **current channel** (p. 50).



1

Press the **[SHIFT]** button so it is lit.



2

Press the **[PGM CHANGE]** button.

The **[PGM CHANGE]** button will light. The display will indicate the program change that was transmitted most recently.

* *The **[HEX]** or **[DECIMAL]** button will also light according to the input mode (p. 51).*

3

Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys of the keyboard to specify the program change you want to transmit.

DEC	Change the current value by -1
INC	Change the current value by +1
00–0F	The input value **HEX**...00–7F **DECIMAL**...1–128

4

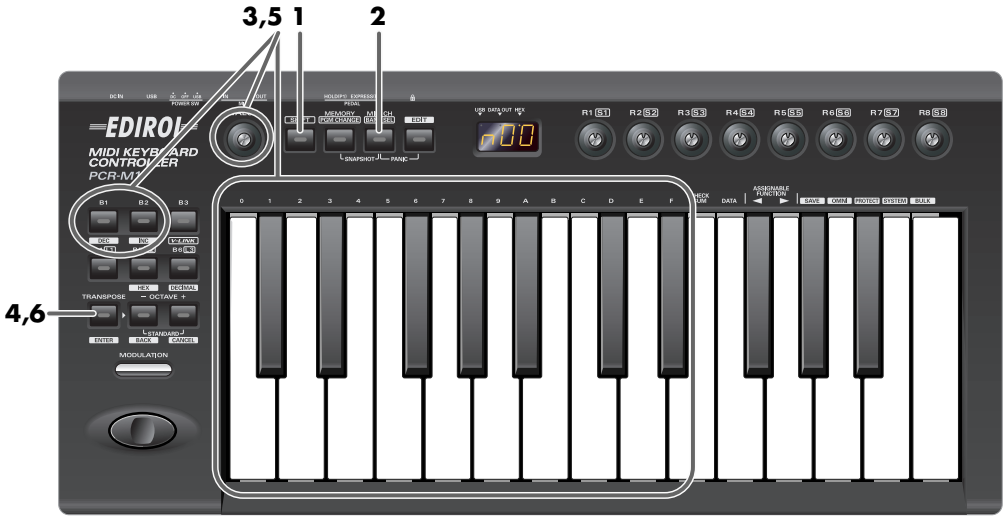
Press the **[ENTER]** button.

The **program change** has now been transmitted.

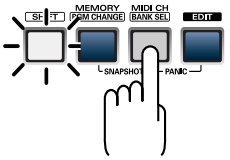
NOTE The setting will be cancelled if you press another button instead of the **[ENTER]** button.

■ Bank mode (BANK)

This mode lets you transmit a bank select (MSB, LSB) message on the **current channel**. The program change message you most recently transmitted (specified) in **Program Change mode** (p. 53) will also be transmitted following the bank select message.



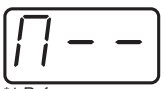
1 Press the **[SHIFT]** button so it is lit.



2 Press the **[BANK SEL]** button.
The **[BANK SEL]** will light. The display will indicate the most recently transmitted bank select (MSB) value.

* *The **[HEX]** or **[DECIMAL]** button will also light according to the input mode (p. 51).*

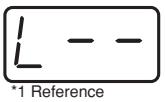
3 First, specify the **bank select MSB** (CC#00).
Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys of the keyboard to specify the bank select MSB that you want to transmit.


*1 Reference

4 Press the **[ENTER]** button.

NOTE The setting will be cancelled if you press another button instead of the **[ENTER]** button.

5 Next, specify the bank select LSB (CC#32).
The display will indicate the most recently transmitted bank select (LSB) value.
Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys of the keyboard to specify the bank select LSB that you want to transmit.


*1 Reference

6 Press the **[ENTER]** button.

The bank select has now been transmitted.

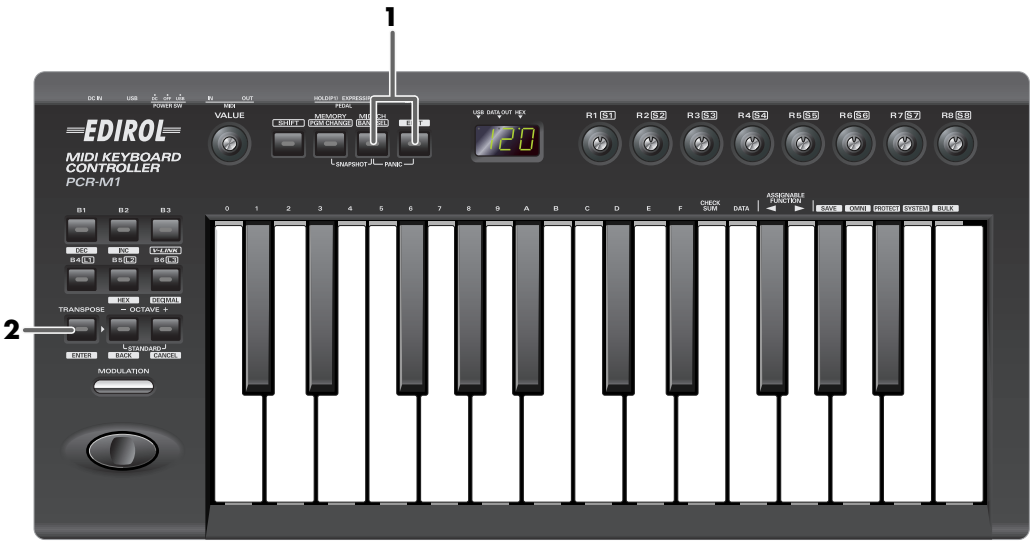
NOTE The setting will be cancelled if you press another button instead of the **[ENTER]** button.

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

Transmitting a Reset message

(What to do if there are “stuck” MIDI notes)
If notes on a connected MIDI sound module become “stuck”, or if there is something wrong with the sound, you can execute the Panic function to solve the problem.
When you execute the Panic function, **All sound off**, **All notes off**, and **Reset all controllers** messages will be transmitted on all channels.

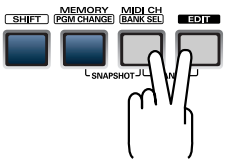
■ Panic Mode (PANIC)



1

Simultaneously press the **[MIDI CH]** button and **[EDIT]** button.

The **[MIDI CH]** button and **[EDIT]** button will light.



2

Press the **[ENTER]** button.

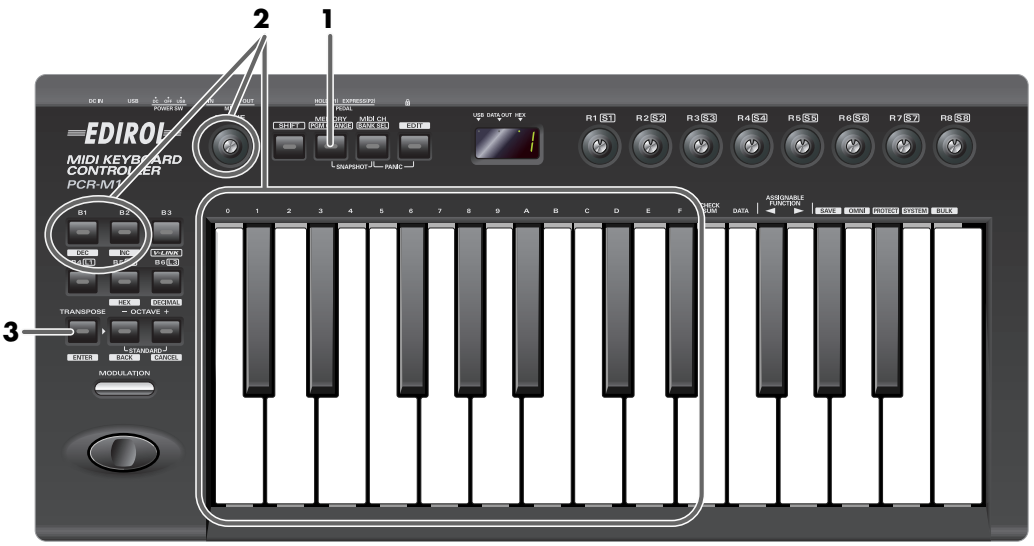
The **[MIDI CH]** button and **[EDIT]** button will blink several times.

The Panic function has now been executed.

Changing the Memory Sets

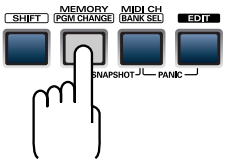
When the PCR-M1 is shipped, its internal memory contains sixteen different settings. For details on the contents of each memory number, refer to **Memory sets** (p. 98).
You will use Memory mode to change the Memory sets.

■ Memory mode (MEMORY)



1 Press the **[MEMORY]** button.

The **[MEMORY]** button will light. The display will indicate the memory number that you selected most recently.



2 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys of the keyboard to specify the memory number that you want to recall.

3 Press the **[ENTER]** button.

The memory has now been recalled.

NOTE The setting will be cancelled if you press another button instead of the **[ENTER]** button.

For details on customizing (editing) the controller settings, refer to **Assign MIDI messages (EDIT)** (p. 58).

If you edit the controller settings of a memory you recall, and want to keep your changes, you must save the memory before powering down the PCR-M1. For the procedure, refer to **Saving a memory set (SAVE)** (p. 86).

Transmitting the current controller values all at once (SNAPSHOT)

Once you have set the various controllers to the desired settings, you can transmit a detailed description of this state in the form of a "snapshot". When you execute this function, the current values of the controllers **[R1–R8]** or **[S1–S8]** will be transmitted.

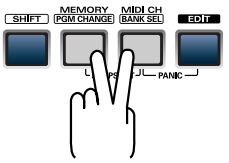
* *When the **[SHIFT]** button is off, **[R1–R8]** will be transmitted. When the **[SHIFT]** button is on, **[S1–S8]** will be transmitted.*

MEMO This is convenient when you want to record the state of these controllers together at the beginning of a song in your sequencer, as the initial values.

■ Snapshot mode (SNAPSHOT)

1 Simultaneously press the **[MEMORY]** button and the **[MIDI CH]** button.

The **[MEMORY]** and **[MIDI CH]** buttons will light.



2 Press the **[ENTER]** button.

The **[MEMORY]** button and **[MIDI CH]** button will blink several times.

The snapshot will be transmitted.

Assign MIDI messages (EDIT)

You can assign the following functions to a controller.
You will use Edit mode to assign MIDI messages.

NOTE	**NOTE ASSIGN** (p. 60)
AFTERTOUCH	**AFTERTOUCH ASSIGN** (p. 62)
CONTROL CHANGE	**CONTROL CHANGE ASSIGN** (p. 65)
PROGRAM CHANGE	**PROGRAM CHANGE ASSIGN** (p. 68)
RPN	**RPN / NRPN ASSIGN** (p. 71)
NRPN	**RPN / NRPN ASSIGN** (p. 71)
Sys Ex	**Sys Ex. ASSIGN** (p. 74)
TEMPO (20-250)	**TEMPO ASSIGN** (p. 83)

You can copy assigned messages to another controller, or cancel an assignment. For details, refer to **Copying a MIDI message assignment (ASSIGN COPY)** (p. 84) or **Canceling a MIDI message assignment (NO ASSIGN)** (p. 85).

* *If you want to assign a single-byte system message (system realtime message, tune request) or a freely specified message of up to 24 bytes, refer to* ***Sys Ex. ASSIGN*** *(p. 74).*

■ Edit mode (EDIT)

How Basic mode and Advanced mode differ

The assignment s **"NOTE"**, **"AFTERTOUCH"**, **"CONTROL CHANGE"**, **"PROGRAM CHANGE"**, **"RPN"**, **"NRPN"**, **"Sys Ex."**can be made either in Basic mode or Advanced mode. Use the mode that is appropriate for your purpose.

- Basic mode :You can make assignments easily, with the minimum number of steps.
- Advanced mode :A greater number of steps are required, but you can specify more parameters and make more sophisticated assignments.

* *For these assignments, the rightmost digit (third place) in the display is a number that indicates the mode (Basic mode or Advanced mode).*

Specifying the button mode

When you make Assign settings (p. 58) in Edit mode to assign a message to a button, you must specify the operating mode of the button (button mode).
When you use a button as a controller, turning the button on will transmit the maximum specified value, and turning it off will transmit the minimum value.

1. Press the **[0]** or **[1]** key to select either **Latch mode** or **Toggle mode**.

0		**Latch mode**	The setting will turn on when you press the button, and off when you release it. The button will remain lit while you are pressing it.
1		**Toggle mode**	The setting will alternate on/off each time you press the button. The button will light when an On message is transmitted, and will go dark when an Off message is transmitted.

2. Press the **[ENTER]** button.

Specifying the port

When you are making Assign settings (p. 58) in Edit mode and have selected Advanced mode, you must specify the USB port to which the message assigned to the controller will be sent when using a USB connection.

1. Press a key **[1]** – **[3]** to select the port.

1		**PORT 1**	Messages will be sent to **"PCR 1"**
2		**PORT 2**	Messages will be sent to **"PCR 2"**
3		**PORT 1, 2**	Messages will be sent to both **"PCR 1"** and **"PCR 2"**

2. Press the **[ENTER]** button.

* *For details on the port, refer to* ***Input / output devices*** *(p. 45).*

NOTE ASSIGN

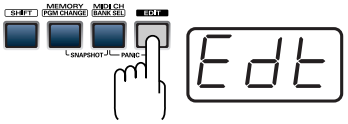
Here's how to assign a Note message to a controller. In addition to being used to play sounds, note messages can also be used to control a sequencer.

Mode	Keyboard	Velocity	Port
Basic mode	0	100 (64H)	PORT 1
Advanced mode	1	Assignable	Assignable

● Basic mode

1 Press the **[EDIT]** button.

The display will indicate "EDT."

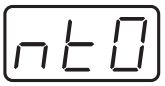


2 Slightly move the controller to which you want to assign a Note message. In the case of a button, press that button.

The display will indicate the number of the selected controller.

3 Verify that the display shows the correct controller number, and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "NT0" to appear in the display.



5 Press the **[ENTER]** button.

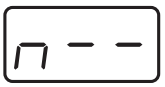
The display will indicate "C–."

*1 Reference

6 Input the channel. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]**–**[F]** keys to specify the channel.

7 Press the **[ENTER]** button.

The display will indicate "N–."



*1 Reference

8 Input the note number. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the note number.

9 Press the **[ENTER]** button.

10 If you are making an assignment for a button, specify the button mode.

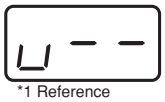
(→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● Advanced mode 1

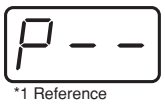
Advanced mode 1 of NOTE ASSIGN lets you specify the velocity value in addition to the items of Basic mode.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign a Note message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Verify that the display indicates the correct controller, and press the **[ENTER]** button.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "NT0" to appear in the display, then press the **[1]** key of the keyboard.
5. Press the **[ENTER]** button.
6. Input the channel.
7. Press the **[ENTER]** button.
8. Input the note number.
9. Press the **[ENTER]** button.
   The display will indicate "V–."



*1 Reference

10. Input the velocity.
11. Press the **[ENTER]** button.
    The display will indicate "P–."



*1 Reference

12. Specify the output port. (→**Specifying the port** (p. 59))
13. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

- If you set **[S1]** – **[S8]**, **[R1]** – **[R8]**, **[P2]** to NOTE ASSIGN, setting the controller to the maximum position will transmit the specified velocity value.
- If you assign this to **[B1]** – **[B6]** , the specified velocity value will be transmitted when you turn the controller on. When you turn the controller off, a note message with a velocity value of 0 will be transmitted.

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

AFTERTOUCH ASSIGN

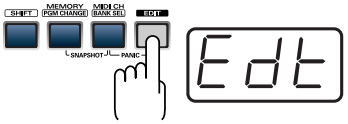
Here's how to assign an Aftertouch message to a controller.

Mode	Keyboard	Message	Value range	Port
Basic mode	0	Channel Pressure	0-127 (00–7FH)	Port 1
Advanced mode 1	1	Channel Pressure	Upper and lower limits are assignable	Assignable
Advanced mode 2	2	Polyphonic Key Pressure	0-127 (00–7FH)	Port 1
Advanced mode 3	3	Polyphonic Key Pressure	Upper and lower limits are assignable	Assignable

● Basic mode

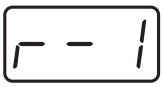
1 Press the **[EDIT]** button.

The display will indicate "EDT."



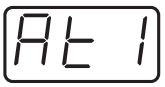
2 Slightly move the controller to which you want to assign an Aftertouch message. In the case of a button, press that button.

The display will indicate the number of the selected controller.



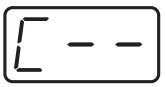
3 Verify that the display shows the correct controller number, and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "AT0" to appear in the display.



5 Verify that the display is correct, and press the **[ENTER]** button.

The display will indicate "C–".



*1 Reference

6 Input the channel. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the channel.

7 Press the **[ENTER]** button.

8 If you are making an assignment for a button, specify the button mode.

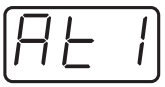
(→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● Advanced mode 1–3

Advanced mode 1 of AFTERTOUCH ASSIGN lets you specify the upper and lower limits of the aftertouch value in addition to the items of Basic mode. Advanced modes 2 and 3 let you specify an aftertouch message for an individual note (Polyphonic Key Pressure) instead of specifying the channel.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign an Aftertouch message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Verify that the display indicates the correct controller, and press the **[ENTER]** button.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "AT0" to appear in the display, then press the **[1]** - **[3]** key of the keyboard.
   The display will indicate the selected mode.



5. Press the **[ENTER]** button.
6. Input the channel.
7. Press the **[ENTER]** button.
8. If you are using Advanced modes 2 or 3, input the note number.
9. If you are using Advanced modes 2 or 3, press the **[ENTER]** button.
10. If you are using Advanced modes 1 or 3, specify the upper limit and lower limit of the value as described in **Specifying the range of values (upper and lower limits)** (p. 64), and specify the output port.
11. If you are using Advanced modes 1 or 3, specify the output port.(→**Specifying the port** (p. 59))
12. If you are making an assignment for a button, specify the button mode.
    (→**Specifying the button mode** (p. 59))

Specifying the range of values (upper and lower limits)

If in Edit mode you selected an Assign type (p. 58) that lets you specify the range of values, you will need to specify the upper limit and lower limit of the value.

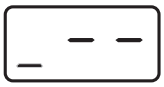
* *Normally, when using Decimal input mode, the value you are specifying appears in the display as a three digit number. This means that there is no indication of which parameter you are currently entering, so you may lose track of what you are doing. If this occurs, you can temporarily switch to Hex input mode to check the parameter that you are now inputting. Then switch back to Decimal input mode and continue. (→**Setting the input mode** (p. 51))*

1. The following display will appear.

*1 Reference

2. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the upper limit.

3. Press the **[ENTER]** button.
The following display will appear.


*1 Reference

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the lower limit.

5. Press the **[ENTER]** button.

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

CONTROL CHANGE ASSIGN

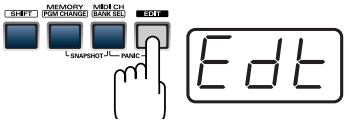
Here's how to assign a control change message to a controller.

Mode	keyboard	Value range	Port
Basic mode	0	00–7FH	PORT 1
Advanced mode 1	1	Upper and lower limits are assignable	Assignable
Advanced mode 2	2	Simulates a rotary encoder	Assignable

● Basic mode

1 Press the **[EDIT]** button.

The display will indicate "EDT".



2 Slightly move the controller to which you want to assign a Control Change message. In the case of a button, press that button.

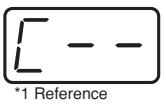
The display will indicate the number of the selected controller.

3 Confirm what's indicated, and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "CC0" to appear in the display.

5 Confirm what's indicated, and press the **[ENTER]** button.

The display will indicate "C–".

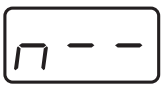


*1 Reference

6 Input the channel. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the channel.

7 Press the **[ENTER]** button.

The display will indicate "N–".



*1 Reference

8 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the control change number.

9 Press the **[ENTER]** button.

10 If you are making an assignment for a button, specify the button mode.

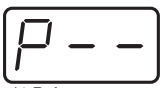
(→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● Advanced mode 1

Advanced mode 1 of CONTROL CHANGE ASSIGN lets you specify the upper and lower limits of the control change value in addition to the items of Basic mode.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign a Control Change message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "CC0" to appear in the display, then press the **[1]** key of the keyboard.
   The display will indicate "CC1".
5. Press the **[ENTER]** button.
6. Input the channel.
7. Press the **[ENTER]** button.
8. Input the control change number.
9. Press the **[ENTER]** button.
10. Specify the range of values. (→**Specifying the range of values (upper and lower limits)** (p. 64))
    The display will indicate "P–".



*1 Reference

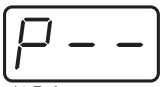
11. Specify the output port. (→**Specifying the port** (p. 59))
12. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● Advanced mode 2

Advanced mode 2 simulates the operation of a conventional rotary encoder. If this is assigned to a controller, moving that controller toward the right (upward) of center will have the same effect as turning the encoder clockwise, and moving the controller toward the left (downward) of center will have the same effect as turning the encoder counterclockwise. As the controller is moved further away from the center, the result will be the same as if the rotary encoder were moved more quickly.
You can assign advanced mode 2 to a button, but it will not function.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign a Control Change message.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "CC0" to appear in the display, then press the **[2]** key of the keyboard.
   The display will indicate "CC2".
5. Press the **[ENTER]** button.
6. Input the channel.
7. Press the **[ENTER]** button.
8. Input the control change number. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the control change number.
9. Press the **[ENTER]** button.
   The display will indicate "P–".



*1 Reference

10. Specify the output port. (→**Specifying the port** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

PROGRAM CHANGE ASSIGN

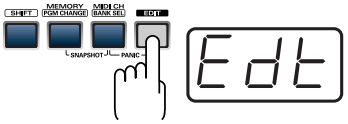
Here's how to assign a program change message to a controller.

Mode	Number	Effect	Bank	Port
Basic mode	0	Fixed value	Not output	PORT 1
Advanced mode 1	1	Upper and lower limits are assignable	Not output	PORT 1
Advanced mode 2	2	Fixed value	Output	Assignable
Advanced mode 3	3	PC DEC	Not output	PORT 1
Advanced mode 4	4	PC INC	Not output	PORT 1

● Basic mode

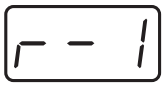
1 Press the **[EDIT]** button.

The display will indicate "EDT."



2 Slightly move the controller to which you want to assign a Program Change message. In the case of a button, press that button.

The display will indicate the number of the selected controller.

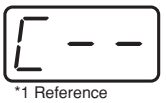


3 Confirm what's indicated, and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "PC0" to appear in the display.

5 Confirm what's indicated, and press the **[ENTER]** button.

The display will indicate "C–".

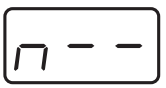


*1 Reference

6 Input the channel. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the channel.

7 Press the **[ENTER]** button.

The display will indicate "N–".



*1 Reference

8 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the program change number.

9 Press the **[ENTER]** button.

* *If you assign Basic mode to **[S1]** – **[S8]**, **[R1]** – **[R8]**, or **[P2]**, moving the controller up to the maximum position will transmit the assigned program change messages.*

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● Advance mode 1, 2

Advanced mode 1 of PROGRAM CHANGE ASSIGN lets you specify the upper and lower limits of the program change value. Advanced mode 2 lets you transmit BANK LSB/MSB settings in addition to the program change.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign a Program Change message. In the case of a button, press that button. The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.

Advanced mode 1

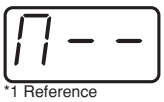
—Specifying the range of values

4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "PC0" to appear in the display, then press the **[1]** key of the keyboard.
5. Press the **[ENTER]** button.
6. Input the channel.
7. Press the **[ENTER]** button.
8. Specify the range of values. (→**Specifying the range of values (upper and lower limits)** (p. 64))

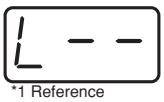
Advanced mode 2

—Transmitting bank data

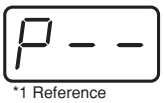
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "PC0" to appear in the display, then press the **[2]** key of the keyboard.
5. Press the **[ENTER]** button.
6. Input the channel.
7. Press the **[ENTER]** button.
8. Specify the bank select MSB (CC#00). Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the MSB.



9. Press the **[ENTER]** button.
10. Specify the bank select LSB (CC#32). Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the LSB.



11. Press the **[ENTER]** button.
12. Input the program change number.
13. Press the **[ENTER]** button.
    The display will indicate "P–".



14. Specify the output port. (→**Specifying the port** (p. 59))

* *If you've assigned Advanced mode 2 to **[S1–S8]**, **[R1–R8]**, and **[P2]**, moving the controller to its maximum position will transmit the specified bank select and program change messages.*

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● Advanced modes 3 and 4

Advanced mode 3 lets you assign the Program Change Decrement function (**PC DEC**) to a controller.
Advanced mode 4 lets you assign the Program Change Increment function (**PC INC**) to a controller.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign Program Change DEC/INC. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "PC0" to appear in the display, then press the **[3]** or **[4]** key of the keyboard.
5. Press the **[ENTER]** button.

Program Change Decrement function (PC DEC)

This transmits a program change that is one less than the previously transmitted program change number.

Program Change Increment function (PC INC)

This transmits a program change that is one greater than the previously transmitted program change number.
The **PC DEC** or **PC INC** is transmitted on the current channel, just as in **Program Change Mode (PROGRAM CHANGE)** (p. 53). The value that is actually transmitted will appear in the display.

- In the explanation here, the "previously transmitted program number" refers to the one that was last transmitted by Advanced Mode 3 or 4 or in **Program Change Mode (PROGRAM CHANGE)** (p. 53).
- Program changes transmitted by basic mode or advanced modes 1 and 2 will not affect the **increment**/**decrement** functions.

* *If you've assigned Advanced mode 3 and 4 to **[S1–S8]**, **[R1–R8]**, and **[P2]**, moving the controller to its maximum position will transmit a program change message.*

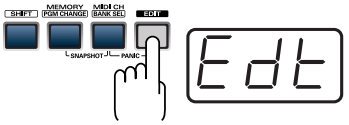
RPN / NRPN ASSIGN

Here's how you can assign an RPN or NRPN message to a controller.

Mode	Keyboard	Data entry MSB (CC#6) range	Data entry LSB (CC#38) range	Port
Basic mode	0	0-127 (00–7FH)	Not transmitted	PORT 1
Advanced mode 1	1	Upper and lower limits are assignable	0-127 (00–7FH)	Assignable

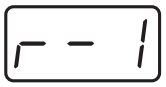
1 Press the **[EDIT]** button.

The display will indicate "EDT".



2 Slightly move the controller to which you want to assign an RPN or NRPN message. In the case of a button, press that button.

The display will indicate the number of the selected controller.



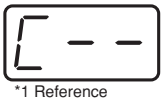
3 Confirm what's indicated, and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "RP0" to appear in the display.

* *If you want to assign an NRPN message, press the **[NRPN]** key. The following procedure is the same as for RPN.*

5 Confirm what's indicated, and press the **[ENTER]** button.

The display will blink "C–".

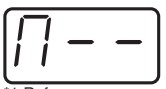


*1 Reference

6 Input the channel. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the channel.

7 Press the **[ENTER]** button.

8 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the RPN MSB (CC#101) or NRPN MSB (CC#99).

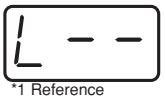


*1 Reference

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

9 Press the **[ENTER]** button.

10 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the RPN LSB (CC#100) or NRPN LSB (CC#98).



*1 Reference

11 Press the **[ENTER]** button.

12 If you are making an assignment for a button, specify the button mode.

(→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

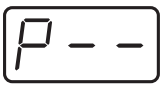
● Advanced mode

In Advanced mode for RPN/NRPN, you can specify the upper and lower limit of the data entry MSB (CC#06) value when the RPN/NRPN message is transmitted, as well as the various settings available in Basic mode.

1. Press the **[EDIT]** button.
2. Slightly move the controller to which you want to assign the RPN or NRPN message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "RP0" to appear in the display, then press the **[1]** key of the keyboard.

* *If you want to assign an NRPN message, press the **[NRPN]** key. The following procedure is the same as for RPN.*

5. Press the **[ENTER]** button.
6. Input the channel. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the channel.
7. Press the **[ENTER]** button.
8. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the RPN MSB (CC#101) or NRPN MSB (CC#99).
9. Press the **[ENTER]** button.
10. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] - [F]** keys to specify the RPN LSB (CC#100) or NRPN LSB (CC#98).
11. Press the **[ENTER]** button.
12. Specify the lower limit of the data entry MSB (CC#06) value. (→**Specifying the range of values (upper and lower limits)** (p. 64))
    The display will indicate "P–."



*1 Reference

13. Press the **[ENTER]** button.
14. Specify the output port. (→**Specifying the port** (p. 59))
15. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

Sys Ex. ASSIGN

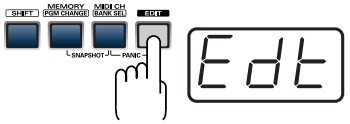
Here's how you can assign a system exclusive message to a controller. Advanced mode 2 lets you assign a single-byte system message (System realtime message, tune request). Advanced modes 3 and 4 let you assign any desired message. (Input up to 24 bytes)

Mode	Key-board	Mode	Value range	Required ending	Notes/restrictions
Basic mode	0	Sys Ex. message	Default range	Input F7	1st byte fixed at F0
Advanced mode 1	1	Sys Ex. message	Assignable	Input F7	1st byte fixed at F0
Advanced mode 2	2	Single byte system message	–	–	**[0–5, 7, 9, D, E] [DATA][CHECKSUM]** buttons are invalid
Advanced mode 3	3	Any desired MIDI message	Default range	Specified number of bytes	**[CHECKSUM]** button is invalid
Advanced mode 4	4	Any desired MIDI message	Assignable	Specified number of bytes	**[CHECKSUM]** button is invalid

Sys Ex. ASSIGN can calculate the checksum automatically, and lets you specify a variable (data) range or embed a channel/block number within the message. (**Sys Ex. ASSIGN items** (p. 76))
In Sys Ex. ASSIGN, the input mode will be HEX mode.

1 Press the **[EDIT]** button.

The display will indicate "EDT".



2 Slightly move the controller to which you want to assign the system exclusive message. In the case of a button, press that button.

The display will indicate the number of the selected controller.

3 Confirm what's indicated, and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "SE0" to appear in the display.

5 If you want to select an Advanced mode, press a key from **[1]** to **[4]**.

The selected mode will blink in the display.

6 Confirm what's indicated, and press the **[ENTER]** button.

Then continue with the procedure described in Basic mode or Advanced mode (p. 58).
For some actual examples of settings, refer to **Examples of assigning system exclusive messages** (p. 79).

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

● For Basic mode or Advanced mode 1

The display will blink "F0", which is the first byte (starting status byte) of a system exclusive message. (This cannot be changed.)

7. Confirm what's indicated, and press the **[ENTER]** button.

8. Use the **[0]** – **[F]** keys to input the second byte.

9. Press the **[ENTER]** button.

10. Input the third and subsequent bytes in the same way.

11. When you have finished inputting the message, use the keyboard to enter **[F]** and **[7]**, specifying the ending status byte "F7".

12. Press the **[ENTER]** button.

13. If Advanced mode1, specify the range of values. (→**Specifying the range of values (upper and lower limits)** (p. 64))

14. Specify the output port. (→**Specifying the port** (p. 59))

15. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

● For Advanced mode 2

The display will indicate "F-."

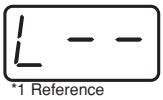
7. Use the **[6]**, **[8]**, **[A]** – **[C]**, **[F]** keys to specify the system message.

8. Press the **[ENTER]** button.

9. Specify the output port. (→**Specifying the port** (p. 59))

● For Advanced modes 3 or 4

The display will indicate "L–".



*1 Reference

7. Use the **[0]** – **[F]** keys of the keyboard to specify the number (decimal) of bytes you want to input.

8. Press the **[ENTER]** button.

9. Use the **[0]** – **[F]** keys to input the first byte.

10. Press the **[ENTER]** button.

11. Input the second and subsequent bytes in the same way.

12. After you have input the number of bytes you specified in step 7, the PCR-M1 will check whether the messages you've input are indeed valid MIDI messages. If there is a problem, the display will indicate "ERR".
In this case, you should press the **[ENTER]** button, which takes you back to step 7, where you can input the values over again.

13. If Advanced mode4, specify the range of values. (→**Specifying the range of values (upper and lower limits)** (p. 64))

14. Specify the output port. (→**Specifying the port** (p. 59))

15. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

Sys Ex. ASSIGN items

- **Specifying the checksum** (p. 76)
- **Specifying the location of the data** (p. 77)
- **Inputting channel/block data** (p. 78)

■ Specifying the checksum

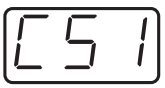
The PCR-M1 can automatically calculate the checksum of a system exclusive message and embed it in the message. In order to use this function, you must use the following procedure to specify the starting location from which the checksum is calculated, and the location at which the checksum is inserted. You can also select the type of checksum.
For an actual example, please read the Sys Ex.ASSIGN section **Bend Pitch Control**(p. 81).

1. Press the **[CHECKSUM]** key before you input the byte at which checksum calculation should begin.
The display will indicate "CSS" (Checksum Start).
If you press the **[CHECKSUM]** key once again, "CSS" (Checksum Start) will be cancelled.

2. Press the **[ENTER]** button.

3. Continue inputting data.

4. Press the **[CHECKSUM]** key at the location where the checksum should be inserted.
The display will indicate "CS1" (Checksum type 1).



5. Press the **[ENTER]** button.

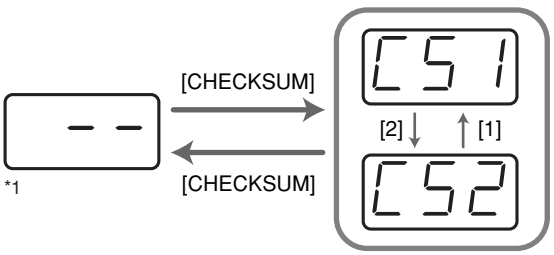
Checksum types

There are two types of checksum, as follows.

1	CS1	**CHECKSUM TYPE 1**	This is the method used by Roland and most other manufacturers
2	CS2	**CHECKSUM TYPE 2**	Select this if the method other than type 1 is used

Switching the type

If you want to switch to **type 2**, press the **[2]** key after you press **[CHECKSUM]** in step 4.
To switch back to **type 1**, press the **[1]** key.



■ Specifying the location of the data

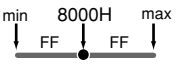
Here's how to specify the location and data type of the variable portion (data) within a system exclusive message.

The range of data values will be the default range in the case of Basic mode or Advanced mode 3. In the case of Advanced modes 1 and 4, you can specify the range of data values.

For an actual example, please read the Sys Ex. ASSIGN section **Master Volume** (p. 80).

1. Press the **[DATA]** key at the location where you want to input the data.
The display will indicate "DT0".

2. Use the **[0]** – **[4]** keys to select the type of data.

Data number	Data type	Default range	Target of range setting	Example (specified upper/lower limits)
DT0	7bit	00H–7F	Specify the range of data (00H–7FH)	04–45 (lower limit 4H, upper limit 45H)
DT1	4bit/4bit	0H/0H–FH/FH	Specify the range of the first byte (0H–FH), second byte is fixed at 0H–FH	0/0–D/F (lower limit 0H, upper limit DH)
DT2	7bit/7bit (MSB/LSB)	00H/00H–7FH/7FH	Specify the MSB range (00H–7FH), LSB is fixed at 00H–7FH	23/00–68/7F (lower limit 23H, upper limit 68H)
DT3	7bit/7bit (LSB/MSB)	00H/00H–7FH/7FH	Specify the MSB range (00H–7FH), LSB is fixed at 00H–7FH	00/23–7F/68 (lower limit 23H, upper limit 68H)
DT4	4bit/4bit/4bit/4bit	7H/FH/0H/1H–8H/0H/FH/FH	Specify the limits of positive/negative change as a value from 00H to FFH, centered on 8000H. 	7/F/0/2–8/0/5/0 (lower limit FEH, upper limit 50H)

* *In the case of DT1–DT4 (data consisting of two or more bytes), a data area will automatically be allocated for the next byte, and "-DT" will be displayed. (This cannot be changed.)*

3. Press the **[ENTER]** button.

4. If you selected DT1 through DT4, the display will indicate "-DT".
Press the **[ENTER]** button.

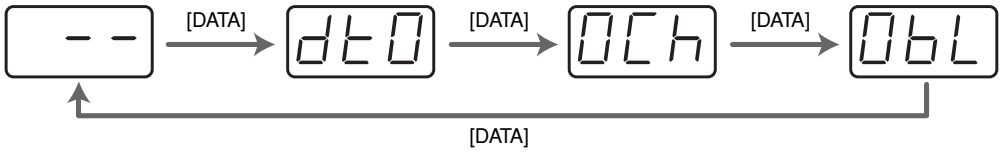
■ Inputting channel/block data

If a system exclusive message includes a channel or GS block number, here's how to specify the type and the value of the upper bits. For the channel and block number, the setting of the **current channel** will be inserted as the lower bits. (The block number is not actually a channel, but corresponds to the **"part"** within a GS sound module. On the PCR-M1, this corresponds to the channel for the sake of convenience.)

Current channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CH	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
BL	1	2	3	4	5	6	7	8	9	0	A	B	C	D	E	F

For an actual example, refer to **Bend Pitch Control** (p. 81) in the section on the Edit Mode.

1. Press the **[DATA]** key several times at the location where you want to input the channel/block number, to select "0CH" for the channel or "0BL" for the block.



2. Use the **[0]** – **[7]** keys to input the value of the upper four bits.
The "0" in the display will change to the numerical value that you input.

3. Press the **[ENTER]** button.

*1 The -- area displays the currently set value. If it has not been set, the default setting will be displayed. Even if you change the type or mode of the MIDI message that is assigned, the default setting will be displayed. This will be lit if the value is the same as the currently set value, or will blink if the value is different.

Examples of assigning system exclusive messages

- **GM2 System On** (p. 79)
- **Master Volume** (p. 80)
- **Bend Pitch Control** (p. 81)

● GM2 System On

F0 7E 7F 09 03 F7

Here's how to assign a GM2 System On system exclusive message in **Basic mode**.

1. Press the **[EDIT]** button.
   The display will indicate "EDT".
2. Slightly move the controller to which you want to assign the system exclusive message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.
4. Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "SE0" to appear in the display.
5. Confirm what's indicated, and press the **[ENTER]** button.
   The display will indicate "F0", which is the first byte (beginning status) of a system exclusive message. This cannot be changed. (This cannot be changed.)
6. Confirm what's indicated, and press the **[ENTER]** button.
7. Use the **[7]** and **[E]** keys to input the second byte "7E".
8. Confirm what's indicated, and press the **[ENTER]** button.
9. Use the **[7]** and **[F]** keys to input the third byte "7F".
10. Confirm what's indicated, and press the **[ENTER]** button.
    Input the fourth and fifth bytes in the same way.
11. Finally, use the **[F]** and **[7]** keys to input the ending status byte "F7".
12. Confirm what's indicated, and press the **[ENTER]** button.
13. Specify the output port. (→**Specifying the port** (p. 59))
14. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

    The GM2 System On message has now been assigned.

● Master Volume

F0 7F 7F 04 01 vL vM F7

Since a Master Volume message has a data range of 00 00–7F 7F and we do not need to specify the range, we will use **Basic mode**. Since the two bytes of data are in the order of LSB and then MSB, we will select "DT3" (p. 77) when we input the data.

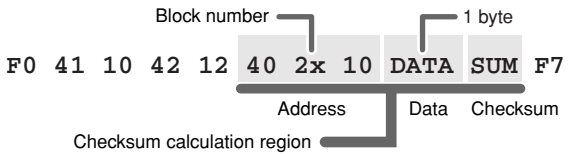
1. Press the **[EDIT]** button.
   The display will indicate "EDT".
2. Slightly move the controller to which you want to assign the system exclusive message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated, and press the **[ENTER]** button.
4. Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "SE0" to appear in the display.
5. Confirm what's indicated, and press the **[ENTER]** button.
   The display will indicate "F0," which is the first byte (beginning status) of a system exclusive message. (This cannot be changed.)
6. Confirm what's indicated, and press the **[ENTER]** button.
7. Use the **[7]** and **[F]** keys to input the second byte "7F".
8. Confirm what's indicated, and press the **[ENTER]** button.
   Input the third, fourth and fifth bytes in the same way.
9. Since the sixth byte is the data area, press the **[DATA]** key, and then press **[3]**.
   The display will indicate "DT3".
10. Confirm what's indicated, and press the **[ENTER]** button.
11. Since we selected "DT3" as the sixth byte, the seventh byte will automatically be allocated as the data area and cannot be modified.
12. Confirm what's indicated, and press the **[ENTER]** button.
13. Use the **[F]** and **[7]** keys to input the ending status byte "F7".
14. Confirm what's indicated, and press the **[ENTER]** button.
15. Specify the output port. (→**Specifying the port** (p. 59))
16. If you are making an assignment for a button, specify the button mode. (→**Specifying the button mode** (p. 59))

    The Master Volume message has now been assigned.

● Bend Pitch Control

Since the GS Bend Pitch Control message has a data range of 40H–58H (0–24 semitones), we will select **Advanced mode 1**, which lets us specify the range. Since the data format is one byte, we will select "DT0" (p. 77) when inserting the data.

1. Press the **[EDIT]** button.
   The display will indicate "EDT".
2. Slightly move the controller to which you want to assign the system exclusive message. In the case of a button, press that button.
   The display will indicate the number of the selected controller.
3. Confirm what's indicated and press **[ENTER]**.
4. Using the **ASSIGNABLE FUNCTION** keys (◄ ►) on the keyboard, get "SE0" to appear in the display, then press the **[1]** key of the keyboard.
   The display will indicate "SE1".
5. Confirm what's indicated and press **[ENTER]**.
   The display will blink "F0", which is the first byte (beginning status) of a system exclusive message. (This cannot be changed.)
6. Confirm what's indicated and press **[ENTER]**.
7. Use the **[4]** and **[1]** keys to input the second byte "41".
8. Confirm what's indicated and press **[ENTER]**.
   Input the third, fourth and fifth bytes in the same way.
9. Since the sixth byte is the beginning of the checksum calculation area, press the **[CHECKSUM]** key to specify this byte as the beginning of the area for which the checksum will be calculated.
10. Confirm what's indicated and press **[ENTER]**.
11. Input the sixth byte.
12. Since the seventh byte will have "2" in the upper bits and the block number in the lower bits, press **[DATA]** three times.
    The display will indicate "0BL".



13. To specify "2" for the upper bits, press the **[2]** key.
    The display will indicate "2BL".
14. Confirm what's indicated and press **[ENTER]**.
15. In the same way, enter bytes 8.
16. Since the ninth byte is the data area, press the **[DATA]** key.
    The display will indicate "DT0."
17. Confirm what's indicated and press **[ENTER]**.

18. Since the ten byte will contain the checksum, press the **[CHECKSUM]** key to specify the location at which the checksum will be input.
The display will blink "CS1" (Checksum Type 1).

19. Confirm what's indicated and press **[ENTER]**.

20. Press the **[F]** and then **[7]** keys to input the ending status "F7."

21. Confirm what's indicated and press **[ENTER]**.

22. Next, specify an upper limit value of "58" for the data area.

23. Press **[ENTER]**.

24. Specify a lower limit value of "40" for the data area.

25. Press **[ENTER]**.

26. Specify the output port.
(→**Specifying the port** (p. 59))

27. If you are making an assignment for a button, specify the button mode.
(→**Specifying the button mode** (p. 59))

The GS Bend Pitch Control message has been assigned.

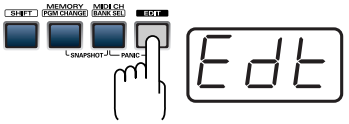
TEMPO ASSIGN

You can assign a controller to adjust the speed (20–250) of the F8 Clock message.

* *In order to transmit F8 Clock messages, the F8 CLOCK setting must be "ON".*
(→**"F8 CLOCK ON/OFF"** (p. 92))

1 Press the **[EDIT]** button.

The display will indicate "EDT."



2 Slightly move the controller to which you want to assign TEMPO. In the case of a button, press that button.

The display will indicate the number of the selected controller.

3 Confirm what's indicated and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "TMP" to appear in the display.

5 Confirm what's indicated and press the **[ENTER]** button.

6 If you are making the assignment for a button, specify the button mode.
(→**Specifying the button mode** (p. 59))

In the case of a button, the value will be fixed at maximum (250) for ON, and minimum (20) for OFF.

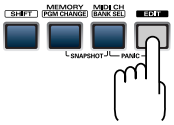
Copying a MIDI message assignment (ASSIGN COPY)

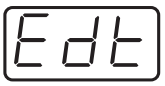
Here's how a message assigned to a controller can be copied to another controller.

1

Press the **[EDIT]** button.

The display will indicate "EDT".





2

Slightly move the controller to which you want to copy the assignment (the "copy destination"). In the case of a button, press that button.

The display will indicate the number of the selected controller.

3

Confirm what's indicated and press the **[ENTER]** button.

4

Slightly move the controller whose assignment you want to copy (the "copy source"). In the case of a button, press that button.

The display will indicate "CPY".

5

Press the **[ENTER]** button.

The display will blink the copy-source controller number.

6

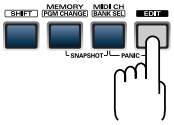
Confirm what's indicated and press the **[ENTER]** button.

Canceling a MIDI message assignment (NO ASSIGN)

Here's how you can cancel the message assigned to a controller. Once its assignment is cancelled, no message will be transmitted when you operate that particular controller.

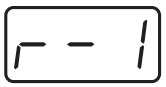
1 Press the **[EDIT]** button.

The display will indicate "EDT".



2 Slightly move the controller whose assignment you want to cancel. In the case of a button, press that button.

The display will indicate the number of the selected controller.



3 Confirm what's indicated and press the **[ENTER]** button.

4 Press an **ASSIGNABLE FUNCTION** key (◄ ►) on the keyboard enough times to get "NOA" to appear in the display.

5 Press the **[ENTER]** button.

6 The display will blink "YES," so press the **[ENTER]** button once again.

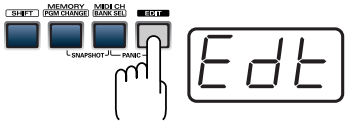
Saving a memory set (SAVE)

Here's how to save the settings of the **current memory** into internal memory.
You can save settings into internal memory numbers 1–F.
You cannot save to memory number 0 (GM2).

* *After you edit the settings, perform the "SAVE" operation as needed. If you turn off the power without performing "SAVE", your changes will be lost.*

1 Press the **[EDIT]** button.

The display will indicate "EDT".



2 Press the **[SAVE]** key.

The display will blink "SAV."

3 Confirm what's indicated and press the **[ENTER]** button.

If the display indicates "PTC", it means that the Save could not be carried out because the PROTECT setting (p. 90) is on. Turn PROTECT off, and then try the operation once again from step 1.

4 Select a memory number 1–F. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[1]** – **[F]** keys to specify the save-destination memory number.

The specified memory number will blink in the display.

5 Confirm what's indicated and press the **[ENTER]** button.

About the memories of the PCR

The PCR has the following sixteen memories.

Memory number 0	GM2 SET	Cannot be saved
Memory number 1 **:** **Memory number F**	User memories (15)	Can be saved

"Current memory" is a location into which you can recall one of these memories.
In order to use one of the saved memories, you must recall it into current memory as described in **Memory mode (MEMORY)** (p. 56).
The contents of current memory will be lost when you turn off the power. If you have modified the settings in current memory, perform the "SAVE" operation if you want to keep your changes.
You can set the **STARTUP MEMORY** (p. 93) setting to specify the memory that will be loaded into current memory when you turn on the power.

Transmitting/receiving bulk data (BULK)

Bulk dump allows a large amount of data to be transferred in a single operation. For example, this can be used to store all settings of a device into a computer or sequencer.

* *When you transmit or receive Bulk data, the contents of the* ***current memory*** *will be lost. Save the current memory settings as needed before you perform this operation.*

?

Bulk dump

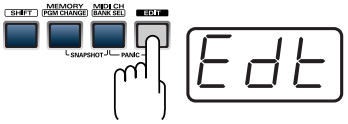
The settings of a MIDI sound module can be transmitted as MIDI data by using system exclusive messages. This is useful when you want to store sound module settings on your sequencer or computer. By placing this data at the beginning of your song, you can ensure that your sound module will always be in the correct state whenever that song data is played back. A collection of this type of exclusive data is known as "bulk data," and the action of transmitting it is known as "bulk dump. "

● Receive mode

1

Press the **[EDIT]** button.

The display will indicate "EDT".



2

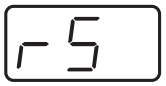
Press the **[BULK]** key.

The display will blink "BLR" (Bulk Receive).

3

Confirm what's indicated and press the **[ENTER]** button.

Display will indicate "RS", and the "S" will blink.



4

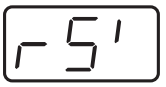
Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] [1]** keys to select the mode.

0	rS	**SINGLE BULK**	The received data will overwrite the current memory. Memories 1–F will not be affected.
1	rA	**ALL BULK**	The received data will overwrite memories 1–F.

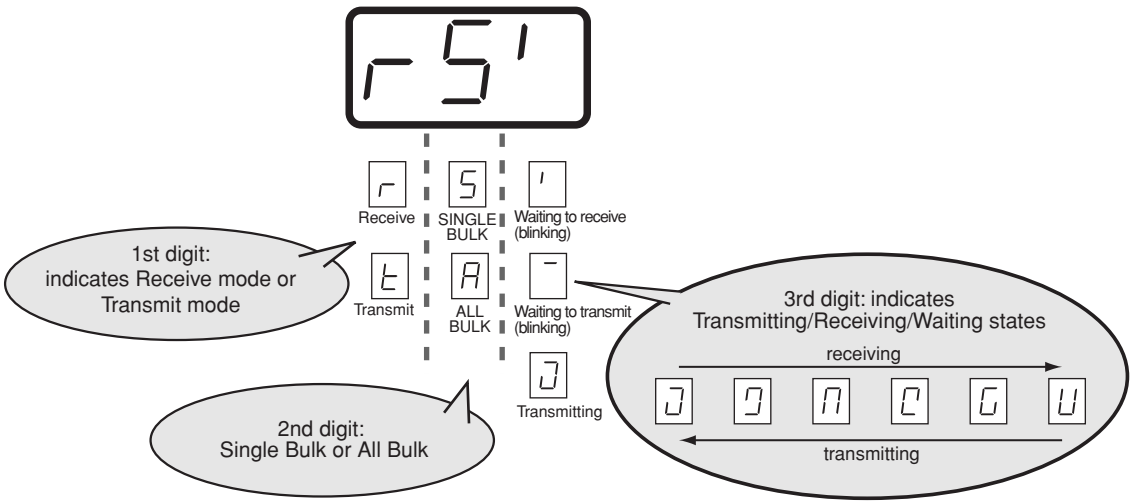
5

Confirm what's indicated and press the **[ENTER]** button.

The third digit of the display will blink, and the PCR-M1 will wait to receive bulk data.



About the display in Bulk mode



6

Transmit bulk data from your sequencer or other device.

Specify "PCR" (Mac OS 9: PCR 1) as the MIDI output device for your sequencer software. For details on this setting, refer to the manual of your sequencer software.
For details on the port that will be used to transfer bulk data, refer to **Input / output devices** (p. 45).

7

When the PCR finishes receiving the bulk data, the display will indicate "END".

Error display

If the data could not be received correctly, the display will blink "ERR".
If this occurs, press the **[CANCEL]** button to cancel the "ERR" display.
Once "ERR" has been dismissed, perform the bulk reception procedure over again, from step 1.

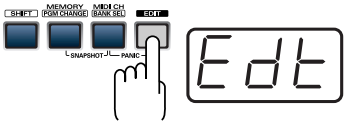
8

Confirm what's indicated and press the **[ENTER]** button.

● Transmit mode

1 Press the **[EDIT]** button.

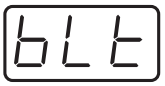
The display will indicate “EDT”.



2 Press the **[BULK]** key.

3 Press the **[1]** key.

The display will blink “BLT” (Bulk Transmit).



4 Confirm what’s indicated and press the **[ENTER]** button.

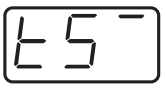
The display will indicate “TS”, and the “S” will blink.

5 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] [1]** keys to select the mode.

0	tS	**SINGLE BULK**	The currently recalled memory (the current memory) will be transmitted as bulk data
1	tA	**ALL BULK**	All memories (memories 1–F) will be transmitted as bulk data.

6 Confirm what’s indicated and press the **[ENTER]** button.

7 The third digit of the display will blink, and the PCR-M1 will wait to transmit bulk data.



8 Press the **[ENTER]** button.

On your sequencer software, specify “PCR -1 2” as the MIDI input device. For details on this setting, refer to the manual of your sequencer software.
For details on the port that will be used to transfer bulk data, refer to **Input / output devices** (p. 45).

9 When the PCR finishes receiving the bulk data, the display will indicate “END”.

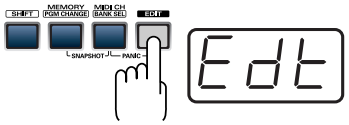
10 Confirm what’s indicated and press the **[ENTER]** button.

Protecting a memory set (PROTECT)

If you turn the Protect setting ON, **ALL BULK** (p. 87) reception and **SAVE** (p. 86) operations will be disabled.

1 Press the **[EDIT]** button.

The display will indicate "EDT".



2 Press the **[PROTECT]** key.

The display will blink "PTC".

3 Confirm what's indicated and press the **[ENTER]** button.

4 The display will show the current setting.

0	oFF	**PROTECT OFF**	Allow changes.
1	on	**PROTECT ON**	Prohibit changes.

5 Use the **[VALUE]** dial, the **[DEC] [INC]** buttons, or the **[0] [1]** keys to select the mode.

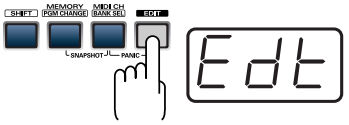
6 Press the **[ENTER]** button.

System settings

Here's how you can make various system settings for the PCR-M1.

1

Press the **[EDIT]** button.
The display will indicate "EDT".



2

Press the **[SYSTEM]** key.
The display will indicate "SY0".

3

Use the **[0]** - **[9]**, **[A]** keys to specify the System setting that you want to set, and then press the **[ENTER]** button.
Confirm what's indicated and use the appropriate method to make the setting.

Mode	Key-board	Content of the setting	Default	Setting method
F8 CLOCK ON/OFF	0	Specify whether F8 Clock is to be transmitted.	OFF	p. 92
F8 CLOCK DEFAULT TEMPO	1	If "F8 CLOCK ON/OFF" is ON, specify the default value of the F8 Clock. After the power is turned on, this tempo will continue to be output until you move a controller to which TEMPO is assigned.	120	p. 92
F8 CLOCK PORT	2	If "F8 CLOCK ON / OFF" is ON, specify the port from which the F8 Clock is to be transmitted.	PORT 1	p. 92
KEYBOARD SENS	3	The PCR-M1 transmits velocity values according to the force with which you play the keyboard. The KEYBOARD SENS setting adjusts the sensitivity of the keyboard.	Medium	p. 92
KEYBOARD PORT SET	4	Specify the port from which the performance data from the keyboard, pitch bender, and modulation controller is to be transmitted.	PORT 1	p. 93
H-ACTIVITY ON / OFF	5	Turn this ON if you are using certain applications (such as Pro Tools LE). When ON, "90 00 7F" will be output from PCR 2 approximately every 500 ms.	OFF	p. 93
USB MIDI DRIVER MODE	6	Specify the type of USB MIDI driver used for USB connection. ** The setting will take effect the next time you turn on the power*	Original Driver	p. 93
STARTUP MEMORY	7	Specify the memory that will be selected when the power is turned on.	GM2	p. 93
FACTORY RESET	8	Restore all settings of the PCR-M1 to their factory-set condition.	-	p. 94
MIDI I/F MODE	9	Specify whether the PCR-M1 will function as a MIDI interface using its MIDI connectors.	ON	p. 94
VALUE ENCODER	A	Select the parameter that is transmitted by the VALUE encoder. MIDI CH / MEMORY / PROGRAM CHANGE / KEY VELOCITY / TEMPO	MIDI CH	p. 95

F8 CLOCK ON / OFF (Keyboard: 0)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** or **[1]** keys to switch F8 CLOCK ON / OFF.
   The display will indicate either "ON" or "OFF".

0	OFF
1	ON

5. Press the **[ENTER]** button.

F8 CLOCK DEFAULT TEMPO (Keyboard: 1)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** - **[F]** keys to specify F8 CLOCK DEFAULT TEMPO. (Value range 20-250)
   The specified value will indicate in the display.

5. Press the **[ENTER]** button.

F8 CLOCK PORT (Keyboard: 2)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[1]** - **[3]** keys to specify F8 CLOCK PORT SET. (→**Specifying the port** (p. 59))
   The specified port will indicate in the display.

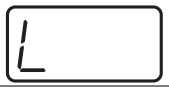
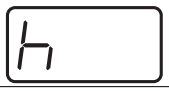
5. Press the **[ENTER]** button.

KEYBOARD SENS (Keyboard: 3)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** - **[2]** keys to specify KEYBOARD SENS.

   The specified value will indicate in the display.

0		**LIGHT**	High velocity values will be transmitted even if you play the keyboard softly.
1		**MEDIUM**	This is the normal sensitivity.
2		**HEAVY**	High velocity values will be transmitted only if you play the keyboard quite strongly.

5. Press the **[ENTER]** button.

MEMO

If you want the velocity values to be fixed, set "VALUE ENCODER setting" to "KEY VELOCITY" (p. 95).

KEYBOARD PORT SET (Keyboard: 4)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[1]** - **[3]** keys to specify KEYBOARD PORT SET. (→**Specifying the port** (p. 59))
The specified port will indicate in the display.

5. Press the **[ENTER]** button.

H-ACTIVITY ON / OFF (Keyboard: 5)

Perform steps 1-3.

0	OFF
1	ON

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** or **[1]** keys to switch H-ACTIVITY ON / OFF.
The display will indicate either "ON" or "OFF".

5. Press the **[ENTER]** button.

USB MIDI DRIVER MODE (Keyboard: 6)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** or **[1]** keys to specify the USB MIDI DRIVER MODE.

0		**Original driver**	FPT technology is used to perform high-speed MIDI transfer. Normally, we recommend that you use this mode.
1		**Generic driver**	Select this if you are using the standard MIDI driver provided by your operating system.

* ***FPT = Fast Processing Technology for MIDI Transmission:***

Effective use is made of the USB bandwidth according to the amount of MIDI data to be transmitted, ensuring that MIDI data processing will always occur optimally.

5. Press the **[ENTER]** button.

STARTUP MEMORY (Keyboard: 7)

Perform steps 1–3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** or **[1]** keys to specify the GM2/ LAST ACCESS MEMORY setting.

0		**GM2 MEMORY**	When the PCR starts up, memory number 0 (GM2) will be loaded into **current memory** (p. 86) regardless of the state in which the power was turned off.
1		**LAST ACCESS MEMORY**	Upon power-up, the PCR-M1 will recall the memory that was last recalled or saved into **current memory** (p. 86).

5. Press the **[ENTER]** button.

FACTORY RESET (Keyboard: 8)

Perform steps 1–3.

4. The display will indicate “RST”.

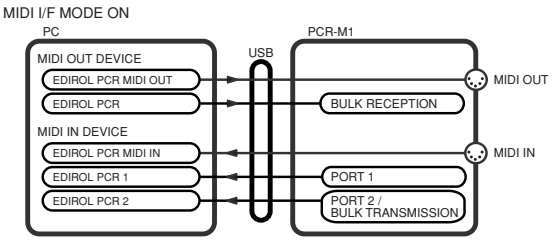
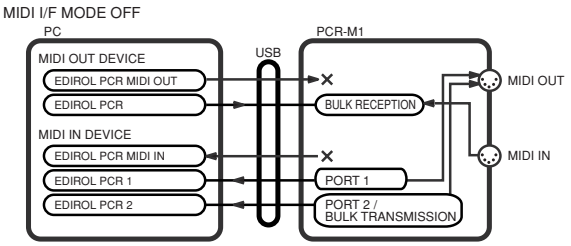
5. Press the **[ENTER]** button.
The display will blink “YES”.

6. Press the **[ENTER]** button.

MIDI I/F MODE (Keyboard: 9)

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** - **[1]** keys to specify MIDI I/F MODE.

0		**MIDI I/F MODE ON**	The MIDI connectors on the rear panel of the PCR-M1 will function as a MIDI interface. MIDI messages from a computer connected via USB to the PCR-M1 will be sent to the MIDI sound module connected to the PCR-M1’s MIDI OUT connector. MIDI messages from a MIDI device connected to the PCR-M1’s MIDI IN connector will be sent to the computer. 
1		**MIDI I/F MODE OFF**	MIDI messages received by the PCR-M1 are not output from the PCR-M1. MIDI messages will be transferred between the PCR-M1 and the computer, or between the PCR-M1 and an external MIDI device. 

5. Press the **[ENTER]** button.

VALUE ENCODER (Keyboard: A)

This selects the parameter that is transmitted by the VALUE encoder.

The "VALUE ENCODER" setting (p. 95) is valid only in PLAY mode (p. 48)
In other modes, the VALUE encoder has the same function as the "INC/DEC" buttons (p. 14).

Perform steps 1-3.

4. Use the **[VALUE]** dial, the **[DEC] [INC]** buttons or the **[0]** - **[4]** keys to specify VALUE ENCODER.

0		**MIDI CH**	**Assigns the MIDI CH (p. 50) parameter** to the VALUE encoder. MIDI CH: 1–16
1		**MEMORY**	**Assigns the MEMORY SET (p. 56, p. 98) parameter** to the VALUE encoder. MEMORY: 0–F
2		**PROGRAM CHANGE**	**Assigns the PROGRAM CHANGE (p. 52) parameter** to the VALUE encoder. PROGRAM CHANGE: 1–128
3		**KEY VELOCITY**	**Assigns the KEY VELOCITY parameter** to the VALUE encoder. In KEY VELOCITY MODE, the velocity value is fixed. The PCR-M1 transmits velocity values that correspond to the force with which you play the keyboard, but if KEY VELOCITY is assigned to the VALUE encoder, the fixed velocity value you specify using the VALUE encoder will be transmitted regardless of how you actually play the keyboard. Use KEY VELOCITY MODE if you don't want the velocity values to be affected by how you play the keyboard. KEY VELOCITY: tch, 1–127 * If you use the VALUE encoder to set the value to "tch", the transmitted velocity will correspond to the force with which you actually play the keyboard.
4		**TEMPO**	**Assigns the tempo** of the F8 Clock messages to the VALUE encoder. TEMPO: 20–250

5. Press the **[ENTER]** button.

V-LINK mode

When the [SHIFT] button is lit (SHIFT ON), pressing the **[V-LINK] button (B3)** will make the PCR-M1 transmit a V-LINK ON message and enter V-LINK mode. When you press the **[V-LINK] button** once again, the PCR will transmit a V-LINK OFF message and will exit V-LINK mode.

When the PCR enters V-LINK mode, it transmits the following messages to the V-LINK host.

- **Clip Ctrl Rx MIDI ch: 16**
- **Color Ctrl Rx MIDI ch: 16**
- **Sender Model Name: EDIROL PCR**

Set the MIDI channel to "16" for parameters that you want to control via V-LINK.

Appendices

This section contains troubleshooting information and explanations of convenient functions.You may read this material as necessary.

Memory sets.....p. 98
Troubleshooting.....p. 104
MIDI implementation.....p. 112
Main specifications.....p. 117

Memory sets

With the factory settings, the GM2 set is assigned to the controllers.
Use the included template.
The following memory sets are also provided.

GM2 set (MEMORY: 0)..... (p. 98)
MCR-8 MODE 3 (SONAR) SET ..... (p. 99)
MCR-8 MODE 3 (SONAR) - A (MEMORY: 1)..... (p. 99)
MCR-8 MODE 3 (SONAR) - B (MEMORY: 2) ..... (p. 99)
MCR-8 MODE 3 (SONAR) - C (MEMORY: 3)..... (p. 99)
MCR-8 MODE 3 (SONAR) - D (MEMORY: 4)..... (p. 99)
MCR-8 MODE 4 (Cubase 5/SX) SET..... (p. 100)
MCR-8 MODE 4 (Cubase 5/SX) - A (MEMORY: 5)(p. 100)
MCR-8 MODE 4 (Cubase 5/SX) - B (MEMORY: 6)(p. 100)
MCR-8 MODE 4 (Cubase 5/SX) - C (MEMORY: 7))(p. 100)
MCR-8 MODE 4 (Cubase 5/SX) - D (MEMORY: 8)(p. 100)
H-COMPATIBLE (ProTools LE, Digital Performer) SET (MEMORY: 9)..... (p. 101)
GS SET ..... (p. 101)
GS-A (MEMORY: A) ..... (p. 101)
GS-B (MEMORY: B)..... (p. 102)
GS-C (MEMORY: C)..... (p. 102)
XG SET ..... (p. 103)
XG-A (MEMORY: D)..... (p. 103)
XG-B (MEMORY: E) ..... (p. 103)

For details on settings for actually using each memory set with your application, refer to the Read Me file for each memory set, located in the Memory Files folder of the CD-ROM.

■ GM2 set (MEMORY: 0)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	FILTER CUTOFF	CC 74(4A)	0(00) - 127(7F)	1	1
R2	FILTER RESONANCE	CC 71(47)	0(00) - 127(7F)	1	1
R3	VIBRATO RATE	CC 76(4C)	0(00) - 127(7F)	1	1
R4	VIBRATO DEPTH	CC 77(4D)	0(00) - 127(7F)	1	1
R5	VIBRATO DELAY	CC 78(4E)	0(00) - 127(7F)	1	1
R6	COARSE TUNING	RPN 0/2(00/02)	0/-(00/–) - 127/-(7F/–)	1	1
R7	FINE TUNING	RPN 0/1(00/01)	0/0(00/00) - 127/127(7F/7F)	1	1
R8	PAN (CHANNEL)	CC 10(0A)	0(00) - 127(7F)	1	1
S1	PORTAMENTO TIME	CC 5(05)	0(00) - 127(7F)	1	1
S2	AFTERTOUCH	CHANNEL PRESSURE	0(00) - 127(7F)	1	1
S3	ENVELOPE ATTACK	CC 73(49)	0(00) - 127(7F)	1	1
S4	ENVELOPE DECAY	CC 75(4B)	0(00) - 127(7F)	1	1
S5	ENVELOPE RELEASE	CC 72(48)	0(00) - 127(7F)	1	1
S6	CHORUS	CC 93(5D)	0(00) - 127(7F)	1	1
S7	REVERB	CC 91(5B)	0(00) - 127(7F)	1	1
S8	VOLUME (CHANNEL)	CC 7(07)	0(00) - 127(7F)	1	1
B1	PROGRAM CHANGE DEC	PROGRAM CHANGE	min:1(00)	-	-
B2	PROGRAM CHANGE INC	PROGRAM CHANGE	max:128(7F)	-	-
B3	PORTAMENTO ON/OFF	CC 65(41)	0(00) / 127(7F)	1	1
B4	POLY MODE ON	B0 7F 00	-	1	1
B5	MONO MODE ON	B0 7E 01	-	1	1
B6	GM2 SYSTEM ON	F0 7E 7F 09 03 F7	-	-	1
L1	STOP	FC	-	-	2
L2	START	FA	-	-	2
L3	CONTINUE	FB	-	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

■ MCR-8 MODE 3 (SONAR) SET

When using this memory set, turn the PCR-M1's **OMNI** (p. 51) setting OFF.

MCR-8 MODE 3 (SONAR) - A (MEMORY: 1)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 1 *1	CC 16(10)	0(00) - 127(7F)	1	2
R2	TRACK 2 *1	CC 16(10)	0(00) - 127(7F)	2	2
R3	TRACK 3 *1	CC 16(10)	0(00) - 127(7F)	3	2
R4	TRACK 4 *1	CC 16(10)	0(00) - 127(7F)	4	2
R5	TRACK 5 *1	CC 16(10)	0(00) - 127(7F)	5	2
R6	TRACK 6 *1	CC 16(10)	0(00) - 127(7F)	6	2
R7	TRACK 7 *1	CC 16(10)	0(00) - 127(7F)	7	2
R8	TRACK 8 *1	CC 16(10)	0(00) - 127(7F)	8	2
S1	TRACK 1 *2	CC 17(11)	0(00) - 127(7F)	1	2
S2	TRACK 2 *2	CC 17(11)	0(00) - 127(7F)	2	2
S3	TRACK 3 *2	CC 17(11)	0(00) - 127(7F)	3	2
S4	TRACK 4 *2	CC 17(11)	0(00) - 127(7F)	4	2
S5	TRACK 5 *2	CC 17(11)	0(00) - 127(7F)	5	2
S6	TRACK 6 *2	CC 17(11)	0(00) - 127(7F)	6	2
S7	TRACK 7 *2	CC 17(11)	0(00) - 127(7F)	7	2
S8	TRACK 8 *2	CC 17(11)	0(00) - 127(7F)	8	2
B1	TRACK 1 *3	CC 80(50)	0(00) / 127(7F)	1	2
B2	TRACK 2 *3	CC 80(50)	0(00) / 127(7F)	2	2
B3	TRACK 3 *3	CC 80(50)	0(00) / 127(7F)	3	2
B4	TRACK 4 *3	CC 80(50)	0(00) / 127(7F)	4	2
B5	TRACK 5 *3	CC 80(50)	0(00) / 127(7F)	5	2
B6	TRACK 6 *3	CC 80(50)	0(00) / 127(7F)	6	2
L1	<<	CC 82(52)	0(00) / 127(7F)	13	2
L2	■ Stop	CC 82(52)	0(00) / 127(7F)	14	2
L3	> Play	CC 82(52)	0(00) / 127(7F)	15	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

MCR-8 MODE 3 (SONAR) - B (MEMORY: 2)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 1 *1	CC 16(10)	0(00) - 127(7F)	1	2
R2	TRACK 2 *1	CC 16(10)	0(00) - 127(7F)	2	2
R3	TRACK 3 *1	CC 16(10)	0(00) - 127(7F)	3	2
R4	TRACK 4 *1	CC 16(10)	0(00) - 127(7F)	4	2
R5	TRACK 5 *1	CC 16(10)	0(00) - 127(7F)	5	2
R6	TRACK 6 *1	CC 16(10)	0(00) - 127(7F)	6	2
R7	TRACK 7 *1	CC 16(10)	0(00) - 127(7F)	7	2
R8	TRACK 8 *1	CC 16(10)	0(00) - 127(7F)	8	2
S1	TRACK 1 *2	CC 17(11)	0(00) - 127(7F)	1	2
S2	TRACK 2 *2	CC 17(11)	0(00) - 127(7F)	2	2
S3	TRACK 3 *2	CC 17(11)	0(00) - 127(7F)	3	2
S4	TRACK 4 *2	CC 17(11)	0(00) - 127(7F)	4	2
S5	TRACK 5 *2	CC 17(11)	0(00) - 127(7F)	5	2
S6	TRACK 6 *2	CC 17(11)	0(00) - 127(7F)	6	2
S7	TRACK 7 *2	CC 17(11)	0(00) - 127(7F)	7	2
S8	TRACK 8 *2	CC 17(11)	0(00) - 127(7F)	8	2
B1	TRACK 1 *4	CC 81(51)	0(00) / 127(7F)	1	2
B2	TRACK 2 *4	CC 81(51)	0(00) / 127(7F)	2	2
B3	TRACK 3 *4	CC 81(51)	0(00) / 127(7F)	3	2
B4	TRACK 4 *4	CC 81(51)	0(00) / 127(7F)	4	2
B5	TRACK 5 *4	CC 81(51)	0(00) / 127(7F)	5	2
B6	TRACK 6 *4	CC 81(51)	0(00) / 127(7F)	6	2
L1	<<	CC 82(52)	0(00) / 127(7F)	13	2
L2	■ Stop	CC 82(52)	0(00) / 127(7F)	14	2
L3	> Play	CC 82(52)	0(00) / 127(7F)	15	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

MCR-8 MODE 3 (SONAR) - C (MEMORY: 3)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 9 *1	CC 16(10)	0(00) - 127(7F)	9	2
R2	TRACK 10 *1	CC 16(10)	0(00) - 127(7F)	10	2
R3	TRACK 11 *1	CC 16(10)	0(00) - 127(7F)	11	2
R4	TRACK 12 *1	CC 16(10)	0(00) - 127(7F)	12	2
R5	TRACK 13 *1	CC 16(10)	0(00) - 127(7F)	13	2
R6	TRACK 14 *1	CC 16(10)	0(00) - 127(7F)	14	2
R7	TRACK 15 *1	CC 16(10)	0(00) - 127(7F)	15	2
R8	TRACK 16 *1	CC 16(10)	0(00) - 127(7F)	16	2
S1	TRACK 9 *2	CC 17(11)	0(00) - 127(7F)	9	2
S2	TRACK 10 *2	CC 17(11)	0(00) - 127(7F)	10	2
S3	TRACK 11 *2	CC 17(11)	0(00) - 127(7F)	11	2
S4	TRACK 12 *2	CC 17(11)	0(00) - 127(7F)	12	2
S5	TRACK 13 *2	CC 17(11)	0(00) - 127(7F)	13	2
S6	TRACK 14 *2	CC 17(11)	0(00) - 127(7F)	14	2
S7	TRACK 15 *2	CC 17(11)	0(00) - 127(7F)	15	2
S8	TRACK 16 *2	CC 17(11)	0(00) - 127(7F)	16	2
B1	TRACK 9 *3	CC 80(50)	0(00) / 127(7F)	9	2
B2	TRACK 10 *3	CC 80(50)	0(00) / 127(7F)	10	2
B3	TRACK 11 *3	CC 80(50)	0(00) / 127(7F)	11	2
B4	TRACK 12 *3	CC 80(50)	0(00) / 127(7F)	12	2
B5	TRACK 13 *3	CC 80(50)	0(00) / 127(7F)	13	2
B6	TRACK 14 *3	CC 80(50)	0(00) / 127(7F)	14	2
L1	Automation Write	CC 82(52)	0(00) / 127(7F)	12	2
L2	■ Stop	CC 82(52)	0(00) / 127(7F)	14	2
L3	Rec	CC 82(52)	0(00) / 127(7F)	11	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

MCR-8 MODE 3 (SONAR) - D (MEMORY: 4)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 9 *1	CC 16(10)	0(00) - 127(7F)	9	2
R2	TRACK 10 *1	CC 16(10)	0(00) - 127(7F)	10	2
R3	TRACK 11 *1	CC 16(10)	0(00) - 127(7F)	11	2
R4	TRACK 12 *1	CC 16(10)	0(00) - 127(7F)	12	2
R5	TRACK 13 *1	CC 16(10)	0(00) - 127(7F)	13	2
R6	TRACK 14 *1	CC 16(10)	0(00) - 127(7F)	14	2
R7	TRACK 15 *1	CC 16(10)	0(00) - 127(7F)	15	2
R8	TRACK 16 *1	CC 16(10)	0(00) - 127(7F)	16	2
S1	TRACK 9 *2	CC 17(11)	0(00) - 127(7F)	9	2
S2	TRACK 10 *2	CC 17(11)	0(00) - 127(7F)	10	2
S3	TRACK 11 *2	CC 17(11)	0(00) - 127(7F)	11	2
S4	TRACK 12 *2	CC 17(11)	0(00) - 127(7F)	12	2
S5	TRACK 13 *2	CC 17(11)	0(00) - 127(7F)	13	2
S6	TRACK 14 *2	CC 17(11)	0(00) - 127(7F)	14	2
S7	TRACK 15 *2	CC 17(11)	0(00) - 127(7F)	15	2
S8	TRACK 16 *2	CC 17(11)	0(00) - 127(7F)	16	2
B1	TRACK 9 *4	CC 81(51)	0(00) / 127(7F)	9	2
B2	TRACK 10 *4	CC 81(51)	0(00) / 127(7F)	10	2
B3	TRACK 11 *4	CC 81(51)	0(00) / 127(7F)	11	2
B4	TRACK 12 *4	CC 81(51)	0(00) / 127(7F)	12	2
B5	TRACK 13 *4	CC 81(51)	0(00) / 127(7F)	13	2
B6	TRACK 14 *4	CC 81(51)	0(00) / 127(7F)	14	2
L1	Automation Write	CC 82(52)	0(00) / 127(7F)	12	2
L2	■ Stop	CC 82(52)	0(00) / 127(7F)	14	2
L3	Rec	CC 82(52)	0(00) / 127(7F)	11	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

Generic Surface Preset	*1	*2	*3	*4
Roland MCR-8 (Aux Send 1)	Aux Send 1 Pan	Aux Send 1 Level	Aux Send 1 Pre/Post	Aux Send 1 Enable
Roland MCR-8 (Aux Send 2)	Aux Send 2 Pan	Aux Send 2 Level	Aux Send 2 Pre/Post	Aux Send 2 Enable
Roland MCR-8 (Mute + Solo)	Pan	Volume	Mute	Solo
Roland MCR-8 (Record Arming)	Pan	Volume	White Arm	Record Arm

■ MCR-8 MODE 4 (Cubase 5/SX) SET

When using this memory set, turn the PCR-M1's **OMNI** (p. 51) setting OFF.

MCR-8 MODE 4 (Cubase 5/SX) - A (MEMORY: 5)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 1 PAN	CC 72(48)	0(00) - 127(7F)	16	2
R2	TRACK 2 PAN	CC 73(49)	0(00) - 127(7F)	16	2
R3	TRACK 3 PAN	CC 74(4A)	0(00) - 127(7F)	16	2
R4	TRACK 4 PAN	CC 75(4B)	0(00) - 127(7F)	16	2
R5	TRACK 5 PAN	CC 76(4C)	0(00) - 127(7F)	16	2
R6	TRACK 6 PAN	CC 77(4D)	0(00) - 127(7F)	16	2
R7	TRACK 7 PAN	CC 78(4E)	0(00) - 127(7F)	16	2
R8	TRACK 8 PAN	CC 79(4F)	0(00) - 127(7F)	16	2
S1	TRACK 1 FADER	CC 64(40)	0(00) - 127(7F)	16	2
S2	TRACK 2 FADER	CC 65(41)	0(00) - 127(7F)	16	2
S3	TRACK 3 FADER	CC 66(42)	0(00) - 127(7F)	16	2
S4	TRACK 4 FADER	CC 67(43)	0(00) - 127(7F)	16	2
S5	TRACK 5 FADER	CC 68(44)	0(00) - 127(7F)	16	2
S6	TRACK 6 FADER	CC 69(45)	0(00) - 127(7F)	16	2
S7	TRACK 7 FADER	CC 70(46)	0(00) - 127(7F)	16	2
S8	TRACK 8 FADER	CC 71(47)	0(00) - 127(7F)	16	2
B1	TRACK 1 SOLO	CC 0(00)	0(00) / 127(7F)	16	2
B2	TRACK 2 SOLO	CC 1(01)	0(00) / 127(7F)	16	2
B3	TRACK 3 SOLO	CC 2(02)	0(00) / 127(7F)	16	2
B4	TRACK 4 SOLO	CC 3(03)	0(00) / 127(7F)	16	2
B5	TRACK 5 SOLO	CC 4(04)	0(00) / 127(7F)	16	2
B6	TRACK 6 SOLO	CC 5(05)	0(00) / 127(7F)	16	2
L1	<<	CC 19(13)	0(00) / 127(7F)	16	2
L2	■ Stop	CC 21(15)	0(00) / 127(7F)	16	2
L3	> Play	CC 22(16)	0(00) / 127(7F)	16	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

MCR-8 MODE 4 (Cubase 5/SX) - B (MEMORY: 6)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 1 PAN	CC 72(48)	0(00) - 127(7F)	16	2
R2	TRACK 2 PAN	CC 73(49)	0(00) - 127(7F)	16	2
R3	TRACK 3 PAN	CC 74(4A)	0(00) - 127(7F)	16	2
R4	TRACK 4 PAN	CC 75(4B)	0(00) - 127(7F)	16	2
R5	TRACK 5 PAN	CC 76(4C)	0(00) - 127(7F)	16	2
R6	TRACK 6 PAN	CC 77(4D)	0(00) - 127(7F)	16	2
R7	TRACK 7 PAN	CC 78(4E)	0(00) - 127(7F)	16	2
R8	TRACK 8 PAN	CC 79(4F)	0(00) - 127(7F)	16	2
S1	TRACK 1 FADER	CC 64(40)	0(00) - 127(7F)	16	2
S2	TRACK 2 FADER	CC 65(41)	0(00) - 127(7F)	16	2
S3	TRACK 3 FADER	CC 66(42)	0(00) - 127(7F)	16	2
S4	TRACK 4 FADER	CC 67(43)	0(00) - 127(7F)	16	2
S5	TRACK 5 FADER	CC 68(44)	0(00) - 127(7F)	16	2
S6	TRACK 6 FADER	CC 69(45)	0(00) - 127(7F)	16	2
S7	TRACK 7 FADER	CC 70(46)	0(00) - 127(7F)	16	2
S8	TRACK 8 FADER	CC 71(47)	0(00) - 127(7F)	16	2
B1	TRACK 1 MUTE	CC 40(28)	0(00) / 127(7F)	16	2
B2	TRACK 2 MUTE	CC 41(29)	0(00) / 127(7F)	16	2
B3	TRACK 3 MUTE	CC 42(2A)	0(00) / 127(7F)	16	2
B4	TRACK 4 MUTE	CC 43(2B)	0(00) / 127(7F)	16	2
B5	TRACK 5 MUTE	CC 44(2C)	0(00) / 127(7F)	16	2
B6	TRACK 6 MUTE	CC 45(2D)	0(00) / 127(7F)	16	2
L1	<<	CC 19(13)	0(00) / 127(7F)	16	2
L2	■ Stop	CC 21(15)	0(00) / 127(7F)	16	2
L3	> Play	CC 22(16)	0(00) / 127(7F)	16	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

MCR-8 MODE 4 (Cubase 5/SX) - C (MEMORY: 7)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 9 PAN	CC 56(38)	0(00) - 127(7F)	16	2
R2	TRACK 10 PAN	CC 57(39)	0(00) - 127(7F)	16	2
R3	TRACK 11 PAN	CC 58(3A)	0(00) - 127(7F)	16	2
R4	TRACK 12 PAN	CC 59(3B)	0(00) - 127(7F)	16	2
R5	TRACK 13 PAN	CC 60(3C)	0(00) - 127(7F)	16	2
R6	TRACK 14 PAN	CC 61(3D)	0(00) - 127(7F)	16	2
R7	TRACK 15 PAN	CC 62(3E)	0(00) - 127(7F)	16	2
R8	TRACK 16 PAN	CC 63(3F)	0(00) - 127(7F)	16	2
S1	TRACK 9 FADER	CC 48(30)	0(00) - 127(7F)	16	2
S2	TRACK 10 FADER	CC 49(31)	0(00) - 127(7F)	16	2
S3	TRACK 11 FADER	CC 50(32)	0(00) - 127(7F)	16	2
S4	TRACK 12 FADER	CC 51(33)	0(00) - 127(7F)	16	2
S5	TRACK 13 FADER	CC 52(34)	0(00) - 127(7F)	16	2
S6	TRACK 14 FADER	CC 53(35)	0(00) - 127(7F)	16	2
S7	TRACK 15 FADER	CC 54(36)	0(00) - 127(7F)	16	2
S8	TRACK 16 FADER	CC 55(37)	0(00) - 127(7F)	16	2
B1	TRACK 9 SOLO	CC 32(20)	0(00) / 127(7F)	16	2
B2	TRACK 10 SOLO	CC 33(21)	0(00) / 127(7F)	16	2
B3	TRACK 11 SOLO	CC 34(22)	0(00) / 127(7F)	16	2
B4	TRACK 12 SOLO	CC 35(23)	0(00) / 127(7F)	16	2
B5	TRACK 13 SOLO	CC 36(24)	0(00) / 127(7F)	16	2
B6	TRACK 14 SOLO	CC 37(25)	0(00) / 127(7F)	16	2
L1	<<	CC 20(14)	0(00) / 127(7F)	16	2
L2	■ Stop	CC 21(15)	0(00) / 127(7F)	16	2
L3	Rec	CC 23(17)	0(00) / 127(7F)	16	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

MCR-8 MODE 4 (Cubase 5/SX) - D (MEMORY: 8)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	TRACK 9 PAN	CC 56(38)	0(00) - 127(7F)	16	2
R2	TRACK 10 PAN	CC 57(39)	0(00) - 127(7F)	16	2
R3	TRACK 11 PAN	CC 58(3A)	0(00) - 127(7F)	16	2
R4	TRACK 12 PAN	CC 59(3B)	0(00) - 127(7F)	16	2
R5	TRACK 13 PAN	CC 60(3C)	0(00) - 127(7F)	16	2
R6	TRACK 14 PAN	CC 61(3D)	0(00) - 127(7F)	16	2
R7	TRACK 15 PAN	CC 62(3E)	0(00) - 127(7F)	16	2
R8	TRACK 16 PAN	CC 63(3F)	0(00) - 127(7F)	16	2
S1	TRACK 9 FADER	CC 48(30)	0(00) - 127(7F)	16	2
S2	TRACK 10 FADER	CC 49(31)	0(00) - 127(7F)	16	2
S3	TRACK 11 FADER	CC 50(32)	0(00) - 127(7F)	16	2
S4	TRACK 12 FADER	CC 51(33)	0(00) - 127(7F)	16	2
S5	TRACK 13 FADER	CC 52(34)	0(00) - 127(7F)	16	2
S6	TRACK 14 FADER	CC 53(35)	0(00) - 127(7F)	16	2
S7	TRACK 15 FADER	CC 54(36)	0(00) - 127(7F)	16	2
S8	TRACK 16 FADER	CC 55(37)	0(00) - 127(7F)	16	2
B1	TRACK 9 MUTE	CC 88(58)	0(00) / 127(7F)	16	2
B2	TRACK 10 MUTE	CC 89(59)	0(00) / 127(7F)	16	2
B3	TRACK 11 MUTE	CC 90(5A)	0(00) / 127(7F)	16	2
B4	TRACK 12 MUTE	CC 91(5B)	0(00) / 127(7F)	16	2
B5	TRACK 13 MUTE	CC 92(5C)	0(00) / 127(7F)	16	2
B6	TRACK 14 MUTE	CC 93(5D)	0(00) / 127(7F)	16	2
L1	<<	CC 20(14)	0(00) / 127(7F)	16	2
L2	■ Stop	CC 21(15)	0(00) / 127(7F)	16	2
L3	Rec	CC 23(17)	0(00) / 127(7F)	16	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

■ H-COMPATIBLE (ProTools LE, Digital Performer) SET (MEMORY: 9)

When using this memory set, turn the PCR-M1's **OMNI** (p. 51) setting OFF, and turn the **H-ACTIVITY** (p. 93) setting ON.

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	ROTARY ENCODER 1	B0 40 dd	DEC(01) / INC(41)	-	2
R2	ROTARY ENCODER 2	B0 41 dd	DEC(01) / INC(41)	-	2
R3	ROTARY ENCODER 3	B0 42 dd	DEC(01) / INC(41)	-	2
R4	ROTARY ENCODER 4	B0 43 dd	DEC(01) / INC(41)	-	2
R5	ROTARY ENCODER 5	B0 44 dd	DEC(01) / INC(41)	-	2
R6	ROTARY ENCODER 6	B0 45 dd	DEC(01) / INC(41)	-	2
R7	ROTARY ENCODER 7	B0 46 dd	DEC(01) / INC(41)	-	2
R8	ROTARY ENCODER 8	B0 47 dd	DEC(01) / INC(41)	-	2
S1	FADER 1	B0 0F 00 B0 2F 40 B0 00 dd B0 20 00 B0 0F 00 B0 2F 00	0(00) - 127(7F)	-	2
S2	FADER 2	B0 0F 01 B0 2F 40 B0 01 dd B0 21 00 B0 0F 01 B0 2F 00	0(00) - 127(7F)	-	2
S3	FADER 3	B0 0F 02 B0 2F 40 B0 02 dd B0 22 00 B0 0F 02 B0 2F 00	0(00) - 127(7F)	-	2
S4	FADER 4	B0 0F 03 B0 2F 40 B0 03 dd B0 23 00 B0 0F 03 B0 2F 00	0(00) - 127(7F)	-	2
S5	FADER 5	B0 0F 04 B0 2F 40 B0 04 dd B0 24 00 B0 0F 04 B0 2F 00	0(00) - 127(7F)	-	2
S6	FADER 6	B0 0F 05 B0 2F 40 B0 05 dd B0 25 00 B0 0F 05 B0 2F 00	0(00) - 127(7F)	-	2
S7	FADER 7	B0 0F 06 B0 2F 40 B0 06 dd B0 26 00 B0 0F 06 B0 2F 00	0(00) - 127(7F)	-	2
S8	FADER 8	B0 0F 07 B0 2F 40 B0 07 dd B0 27 00 B0 0F 07 B0 2F 00	0(00) - 127(7F)	-	2
B1	MUTE 1	B0 0F 00 B0 2F dd	ON(42) / OFF(02)	-	2
B2	SOLO 1	B0 0F 00 B0 2F dd	ON(43) / OFF(03)	-	2
B3	REC 1	B0 0F 00 B0 2F dd	ON(47) / OFF(07)	-	2
B4	WRITE 1	B0 0F 00 B0 2F dd	ON(44) / OFF(04)	-	2
B5	TRACK <	B0 0F 0A B0 2F dd	ON(40) / OFF(00)	-	2
B6	TRACK >	B0 0F 0A B0 2F dd	ON(42) / OFF(02)	-	2
L1	REWIND	B0 0F 0E B0 2F dd	ON(41) / OFF(01)	-	2
L2	STOP	B0 0F 0E B0 2F dd	ON(43) / OFF(03)	-	2
L3	PLAY	B0 0F 0E B0 2F dd	ON(44) / OFF(04)	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

■ GS SET

When using this memory set, you will find it convenient to turn the PCR-M1's **OMNI** (p. 51) setting ON.

GS-A (MEMORY: A)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	REVERB MACRO	F0 41 10 42 12 **40 01 30 dd SUM** F7	0(00) - 7(07)	-	1
R2	REVERB CHARACTER	F0 41 10 42 12 **40 01 31 dd SUM** F7	0(00) - 7(07)	-	1
R3	REVERB PRE-LPF	F0 41 10 42 12 **40 01 32 dd SUM** F7	0(00) - 7(07)	-	1
R4	REVERB TIME	F0 41 10 42 12 **40 01 34 dd SUM** F7	0(00) - 127(7F)	-	1
R5	REVERB PREDELAY TIME	F0 41 10 42 12 **40 01 37 dd SUM** F7	0(00) - 127(7F)	-	1
R6	REVERB DELAY FEEDBACK	F0 41 10 42 12 **40 01 35 dd SUM** F7	0(00) - 127(7F)	-	1
R7	REVERB LEVEL	F0 41 10 42 12 **40 01 33 dd SUM** F7	0(00) - 127(7F)	-	1
R8	PART PANPOT	F0 41 10 42 12 **40 1x 1C dd SUM** F7	1(01) - 127(7F)	BLOCK	1
S1	VIBRATO RATE	F0 41 10 42 12 **40 1x 30 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S2	VIBRATO DEPTH	F0 41 10 42 12 **40 1x 31 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S3	VIBRATO DELAY	F0 41 10 42 12 **40 1x 37 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S4	TVF&TVA ENV.ATTACK	F0 41 10 42 12 **40 1x 34 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S5	TVF&TVA ENV.DECAY	F0 41 10 42 12 **40 1x 35 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S6	TVF&TVA ENV.RELEASE	F0 41 10 42 12 **40 1x 36 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S7	REVERB SEND LEVEL	F0 41 10 42 12 **40 1x 22 dd SUM** F7	0(00) - 127(7F)	BLOCK	1
S8	PART LEVEL	F0 41 10 42 12 **40 1x 19 dd SUM** F7	0(00) - 127(7F)	BLOCK	1
B1	PROGRAM CHANGE DEC	PROGRAM CHANGE	min:1 (00)	-	-
B2	PROGRAM CHANGE INC	PROGRAM CHANGE	max:128 (7F)	-	-
B3	NRPN ON/OFF	F0 41 10 42 12 **40 1x 0A dd SUM** F7	OFF(00) / ON(01)	BLOCK	1
B4	RANDOM PAN	F0 41 10 42 12 **40 1x 1C 00 SUM** F7	-	BLOCK	1
B5	MODE POLY/MONO	F0 41 10 42 12 **40 1x 13 dd SUM** F7	MONO(00) / POLY(01)	BLOCK	1
B6	GS RESET	F0 41 10 42 12 **40 00 7F 00 41** F7	-	-	1
L1	STOP	FC	-	-	2
L2	START	FA	-	-	2
L3	CONTINUE	FB	-	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

GS-B (MEMORY: B)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	CHORUS MACRO	F0 41 10 42 12 **40 01 38 dd SUM** F7	0(00) - 7(07)	-	1
R2	CHORUS PRE-LPF	F0 41 10 42 12 **40 01 39 dd SUM** F7	0(00) - 7(07)	-	1
R3	CHORUS DELAY	F0 41 10 42 12 **40 01 3C dd SUM** F7	0(00) - 127(7F)	-	1
R4	CHORUS RATE	F0 41 10 42 12 **40 01 3D dd SUM** F7	0(00) - 127(7F)	-	1
R5	CHORUS DEPTH	F0 41 10 42 12 **40 01 3E dd SUM** F7	0(00) - 127(7F)	-	1
R6	CHORUS FEEDBACK	F0 41 10 42 12 **40 01 3B dd SUM** F7	0(00) - 127(7F)	-	1
R7	CHORUS LEVEL	F0 41 10 42 12 **40 01 3A dd SUM** F7	0(00) - 127(7F)	-	1
R8	PART PANPOT	F0 41 10 42 12 **40 1x 1C dd SUM** F7	1(01) - 127(7F)	BLOCK	1
S1	CHORUS SEND LEVEL TO REVERB	F0 41 10 42 12 **40 01 3F dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S2	CHORUS SEND LEVEL TO DELAY	F0 41 10 42 12 **40 01 40 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S3	TVF CUTOFF FREQ	F0 41 10 42 12 **40 1x 32 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S4	TVF RESONANCE	F0 41 10 42 12 **40 1x 33 dd SUM** F7	0(00) - 64(40) - 127(7F)	BLOCK	1
S5	MODULATION DEPTH	F0 41 10 42 12 **40 2x 04 dd SUM** F7	0(00) - 127(7F)	BLOCK	1
S6	BEND RANGE	F0 41 10 42 12 **40 2x 10 dd SUM** F7	64(40) - 88(58)	BLOCK	1
S7	CHORUS SEND LEVEL	F0 41 10 42 12 **40 1x 21 dd SUM** F7	0(00) - 127(7F)	BLOCK	1
S8	PART LEVEL	F0 41 10 42 12 **40 1x 19 dd SUM** F7	0(00) - 127(7F)	BLOCK	1
B1	PROGRAM CHANGE DEC	PROGRAM CHANGE	min:1 (00)	-	-
B2	PROGRAM CHANGE INC	PROGRAM CHANGE	max:128 (7F)	-	-
B3	NRPN ON/OFF	F0 41 10 42 12 **40 1x 0A dd SUM** F7	OFF(00) / ON(01)	BLOCK	1
B4	RANDOM PAN	F0 41 10 42 12 **40 1x 1C 00 SUM** F7	-	BLOCK	1
B5	MODE POLY/MONO	F0 41 10 42 12 **40 1x 13 dd SUM** F7	MONO(00) / POLY(01)	BLOCK	1
B6	GS RESET	F0 41 10 42 12 **40 00 7F 00 41** F7	-	-	1
L1	STOP	FC	-	-	2
L2	START	FA	-	-	2
L3	CONTINUE	FB	-	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

GS-C (MEMORY: C)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	DELAY MACRO	F0 41 10 42 12 **40 01 50 dd SUM** F7	0(00) - 9(09)	-	1
R2	DELAY PRE-LPF	F0 41 10 42 12 **40 01 51 dd SUM** F7	0(00) - 7(07)	-	1
R3	DELAY TIME RATIO LEFT	F0 41 10 42 12 **40 01 53 dd SUM** F7	1(01) - 120(78)	-	1
R4	DELAY TIME CENTER	F0 41 10 42 12 **40 01 52 dd SUM** F7	1(01) - 115(73)	-	1
R5	DELAY TIME RATIO RIGHT	F0 41 10 42 12 **40 01 54 dd SUM** F7	1(01) - 120(78)	-	1
R6	DELAY FEEDBACK	F0 41 10 42 12 **40 01 59 dd SUM** F7	0(00) - 64(40) - 127(7F)	-	1
R7	DELAY LEVEL	F0 41 10 42 12 **40 01 58 dd SUM** F7	0(00) - 127(7F)	-	1
R8	PART PANPOT	F0 41 10 42 12 **40 1x 1C dd SUM** F7	1(01) - 127(7F)	BLOCK	1
S1	DELAY SEND LEVEL TO REVERB	F0 41 10 42 12 **40 01 5A dd SUM** F7	0(00) - 127(7F)	-	1
S2	DELAY LEVEL LEFT	F0 41 10 42 12 **40 01 56 dd SUM** F7	0(00) - 127(7F)	-	1
S3	DELAY LEVEL CENTER	F0 41 10 42 12 **40 01 55 dd SUM** F7	0(00) - 127(7F)	-	1
S4	DELAY LEVEL RIGHT	F0 41 10 42 12 **40 01 57 dd SUM** F7	0(00) - 127(7F)	-	1
S5	EQ LOW GAIN	F0 41 10 42 12 **40 02 01 dd SUM** F7	22(34) - 64(40) - 76(4C)	-	1
S6	EQ HIGH GAIN	F0 41 10 42 12 **40 02 03 dd SUM** F7	22(34) - 64(40) - 76(4C)	-	1
S7	DELAY SEND LEVEL	F0 41 10 42 12 **40 1x 2C dd SUM** F7	0(00) - 127(7F)	BLOCK	1
S8	PART LEVEL	F0 41 10 42 12 **40 1x 19 dd SUM** F7	0(00) - 127(7F)	BLOCK	1
B1	EQ ON / OFF	F0 41 10 42 12 **40 4x 20 dd SUM** F7	OFF(00) / ON(01)	BLOCK	1
B2	EQ LOW FREQ (200Hz/400Hz)	F0 41 10 42 12 **40 02 00 dd SUM** F7	200Hz(00) / 400Hz(01)	-	1
B3	EQ HIGH FREQ (3kHz/6kHz)	F0 41 10 42 12 **40 02 02 dd SUM** F7	3kHz(00) / 6kHz(01)	-	1
B4	RANDOM PAN	F0 41 10 42 12 **40 1x 1C 00 SUM** F7	-	BLOCK	1
B5	MODE POLY/MONO	F0 41 10 42 12 **40 1x 13 dd SUM** F7	MONO(00) / POLY(01)	BLOCK	1
B6	GS RESET	F0 41 10 42 12 **40 00 7F 00 41 F7**	-	-	1
L1	STOP	FC	-	-	2
L2	START	FA	-	-	2
L3	CONTINUE	FB	-	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

■ XG SET

When using this memory set, you will find it convenient to turn the PCR-M1's **OMNI** (p. 51) setting ON.

XG-A (MEMORY: D)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	BEND PITCH CONTROL	F0 43 10 4C **08 0ch 23 dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R2	BEND FILTER CONTROL	F0 43 10 4C **08 0ch 24 dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R3	BEND AMPLITUDE CONTROL	F0 43 10 4C **08 0ch 25 dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R4	PITCH EG INITIAL LEVEL	F0 43 10 4C **08 0ch 69 dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R5	PITCH EG ATTACK TIME	F0 43 10 4C **08 0ch 6A dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R6	PITCH EG RELEASE LEVEL	F0 43 10 4C **08 0ch 6B dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R7	PITCH EG RELEASE TIME	F0 43 10 4C **08 0ch 6C dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R8	PAN	F0 43 10 4C **08 0ch 0E dd** F7	1(01) - 64(40) - 127(7F)	CURRENT CH	1
S1	BEND LFO PMOD DEPTH	F0 43 10 4C **08 0ch 26 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S2	BEND LFO FMOD DEPTH	F0 43 10 4C **08 0ch 27 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S3	BEND LFO AMOD DEPTH	F0 43 10 4C **08 0ch 28 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S4	REVERB SEND	F0 43 10 4C **08 0ch 13 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S5	CHORUS SEND	F0 43 10 4C **08 0ch 12 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S6	VARIATION SEND	F0 43 10 4C **08 0ch 14 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S7	DRY LEVEL	F0 43 10 4C **08 0ch 11 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S8	VOLUME	F0 43 10 4C **08 0ch 0B dd** F7	0(00) - 127(7F)	CURRENT CH	1
B1	PROGRAM CHANGE DEC	PROGRAM CHANGE	min:1 (00)	-	-
B2	PROGRAM CHANGE INC	PROGRAM CHANGE	max:128 (7F)	-	-
B3	PART MODE NORMAL/DRUM	F0 43 10 4C **08 0ch 07 dd** F7	OFF(00) / ON(01)	CURRENT CH	1
B4	RANDOM PAN	F0 43 10 4C **08 0ch 0E 00** F7	-	CURRENT CH	1
B5	MONO/POLY MODE	F0 43 10 4C **08 0ch 05 dd** F7	MONO(00) / POLY(01)	CURRENT CH	1
B6	XG SYSTEM ON	F0 43 10 4C **00 00 7E 00** F7	-	-	1
L1	STOP	FC	-	-	2
L2	START	FA	-	-	2
L3	CONTINUE	FB	-	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

XG-B (MEMORY: E)

	Parameter	Message (Hex.)	Range (Hex.)	Ch.	Port
R1	MW PITCH CONTROL	F0 43 10 4C **08 0ch 1D dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R2	MW FILTER CONTROL	F0 43 10 4C **08 0ch 1E dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R3	MW AMPLITUDE CONTROL	F0 43 10 4C **08 0ch 1F dd** F7	0(00) - 64(40) - 127(7F)	CURRENT CH	1
R4	REVERB PAN	F0 43 10 4C **02 01 0D dd** F7	0(00) - 64(40) - 127(7F)	-	1
R5	CHORUS PAN	F0 43 10 4C **02 01 2D dd** F7	0(00) - 64(40) - 127(7F)	-	1
R6	VARIATION PAN	F0 43 10 4C **02 01 57 dd** F7	0(00) - 64(40) - 127(7F)	-	1
R7	SEND VARIATION TO REVERB	F0 43 10 4C **02 01 58 dd** F7	0(00) - 127(7F)	-	1
R8	SEND VARIATION TO CHORUS	F0 43 10 4C **02 01 59 dd** F7	0(00) - 127(7F)	-	1
S1	MW LFO PMOD DEPTH	F0 43 10 4C **08 0ch 20 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S2	MW LFO FMOD DEPTH	F0 43 10 4C **08 0ch 21 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S3	MW LFO AMOD DEPTH	F0 43 10 4C **08 0ch 22 dd** F7	0(00) - 127(7F)	CURRENT CH	1
S4	REVERB RETURN	F0 43 10 4C **02 01 0C dd** F7	0(00) - 127(7F)	-	1
S5	CHORUS RETURN	F0 43 10 4C **02 01 2C dd** F7	0(00) - 127(7F)	-	1
S6	VARIATION RETURN	F0 43 10 4C **02 01 56 dd** F7	0(00) - 127(7F)	-	1
S7	SEND CHORUS TO REVERB	F0 43 10 4C **02 01 2E dd** F7	0(00) - 127(7F)	-	1
S8	VOLUME	F0 43 10 4C **08 0ch 0B dd** F7	0(00) - 127(7F)	CURRENT CH	1
B1	PROGRAM CHANGE DEC	PROGRAM CHANGE	min:1 (00)	-	-
B2	PROGRAM CHANGE INC	PROGRAM CHANGE	max:128 (7F)	-	-
B3	PART MODE NORMAL/DRUM	F0 43 10 4C **08 0ch 07 dd** F7	OFF(00) / ON(01)	CURRENT CH	1
B4	RANDOM PAN	F0 43 10 4C **08 0ch 0E 00** F7	-	CURRENT CH	1
B5	MONO/POLY MODE	F0 43 10 4C **08 0ch 05 dd** F7	MONO(00) / POLY(01)	CURRENT CH	1
B6	XG SYSTEM ON	F0 43 10 4C **00 00 7E 00** F7	-	-	1
L1	STOP	FC	-	-	2
L2	START	FA	-	-	2
L3	CONTINUE	FB	-	-	2
P1	HOLD	CC 64(40)	0(00) / 127(7F)	1	1
P2	EXPRESSION	CC 11(0B)	0(00) - 127(7F)	1	1

Troubleshooting

Windows Macintosh Problems common to Windows and Macintosh

Windows Problems occurring only in Windows

Macintosh Problems occurring only in Macintosh

Trouble shooting is organized according to different operating systems. Refer to the icon(s) at the left of the title to find your items you need.

* *For details on operating your Windows or Macintosh computer, refer to the owner's manual of the computer and operating system you are using.*

Problems related to the USB driver

Windows Macintosh Cannot install the driver correctly

Did you make the correct connections and settings for installation? Check each one of the following items.

- **Is the PCR-M1 connected correctly?**
  Make sure that the USB connector of your computer is connected to the PCR-M1 by a USB cable.
- **Is the CD-ROM correctly inserted into your CD-ROM drive?**
  Installation is not possible unless the CD-ROM included with the PCR-M1 is inserted in your CD-ROM drive. Make sure that the CD-ROM is correctly inserted into your CD-ROM drive.
- **Is the CD-ROM or the lens of the CD-ROM dirty?**
  If the CD-ROM or the lens of the CD-ROM drive is dirty, the installer may not work correctly. Clean the disc and/or lens using a commercially-available CD cleaner or lens cleaner.
- **Are you installing the software from a networked CD-ROM drive?**
  The software cannot be installed from a networked CD-ROM drive.
- **Could other applications or resident software (such as antivirus programs) be running?**
  Installation may not be successful if other programs are running.
  Be sure to close all other programs before installation.
- **Is your computer's power-conservation mode turned off?**
  If power-conservation settings are enabled on your computer, please disable any such settings. (For the procedure, refer to the owner's manual of your computer.)
- **Could any other USB device be connected?**
  Before you install, disconnect all USB devices except for your mouse and keyboard.

- **Is USB enabled on your computer?**
  Refer to the operation manual for your computer, and make sure that USB is enabled.

- **Is there sufficient free space on your hard disk?**
  Delete unneeded files to increase the amount of free space. After deleting the unneeded files, empty the recycling bin.

Windows **Device Manager indicate any of these: "Other device," "Unknown device," or a device for which "?", "!" or "x" is displayed?**

If the driver installation could not be successfully completed, the installed driver may remain in an incomplete state. Make sure to install the driver over again(p. 18).

Windows **You attempted to install using the procedure in "Installing the driver," but the installation was not successful.**

Use the procedure in **Deleting the driver** (p. 109) to uninstall the driver.
Then set the PCR to the following driver mode, turn the PCR's power on again, and install the driver once again.]

"USB MIDI DRIVER MODE "(p. 93) 0: Original driver

Macintosh **Is OMS or FreeMIDI installed? (Mac OS 9)**

The PCR-M1 driver cannot be installed unless OMS or FreeMIDI are installed. Please install **OMS** or **FreeMIDI**.

Windows The “Insert Disk” dialog box does not appear

It is possible that the unsuccessfully installed driver is still present.
Turn off the power of your computer, and then install the driver once again.

Windows Cannot install the driver correctly “Find new hardware wizard” does not execute automatically

Windows The “Insert Disk” dialog box does not appear

Windows The “Insert Disk” dialog box does not appear “Find new hardware wizard” ends before the process is completed

- **Is the USB cable connected correctly?**
  Make sure that the PCR-M1 and your computer are correctly connected via a USB cable.

- **Does your computer or USB hub have sufficient power supply capacity?**
  The PCR-M1 cannot be connected if insufficient power is supplied to it. Check whether one of the following cases apply.
  - If you are using the PCR-M1 with a notebook computer that is running on its battery, operation may be unreliable with some models of computer. If this is the case, connect the AC adaptor to your notebook computer.
  - The power conservation mode of your computer may limit the power that is supplied to USB. Check the settings of your computer.
  - In some cases, the PCR-M1 cannot be used with a bus-powered hub (a hub that does not contain a power supply). Please use a self-powered hub (a hub that contains a power supply).

- **Is USB enabled on your computer?**
  Refer to the operation manual for your computer, and make sure that USB is enabled.

- **Does your computer meet the USB specifications?**
  If you are using a computer that does not fulfill the electrical requirements of the USB specifications, operation may be unstable. In this case, you may be able to solve the problem by connecting a USB hub.
  If the above actions do not solve the problem, it is possible that the PCR-M1 has been incorrectly detected by the computer. Please reinstall the driver from the beginning of the procedure. (**Getting Connected and Installing Drivers (Windows)** (p. 18))

- **It has been found that in some cases, not all of the Windows 98 files required to support audio via USB are installed when a computer is shipped.**
  Please contact the manufacturer of your computer.

Windows “Found unknown device” appears even though you installed the driver

If your computer or USB hub has two or more USB connectors, and you connect the PCR-M1 to a USB connector to which the PCR-M1 has never been connected before, the **“Unknown device”** dialog box may appear even on a computer onto which you have already installed the driver. Refer to **Installing the driver** (p. 18), and install the driver once again. This is not a malfunction.

If the **“Found unknown device”** dialog box appears even though the PCR-M1 is connected to the same USB connector as before, it is possible that the computer has detected the PCR-M1 incorrectly. Please reinstall the driver from the beginning of the procedure (p. 18).

Windows Can’t install/delete/use the driver in Windows XP/2000

- **Did you log on to Windows as a user with administrative privileges?**
  In order to install/delete/re-install the driver in Windows XP/2000, you must be logged into Windows as a user with administrative privileges, such as Administrator. For details, please contact the system administrator for your computer system.
- **Did you make “Driver Signing Options”?**
- **In order to install/re-install the driver, you must make “Driver Signing Options”.**
  (→**Windows XP** (p. 18), **Windows 2000** (p. 23)

Windows Windows XP/2000 displays a “Hardware Installation” or “Digital Signature Not Found” dialog box

- **Did you make “Driver Signing Options”?**
  In order to install/re-install the driver, you must make the settings described in **“Driver Signing Options”**.
  (→**Windows XP** (p. 18), **Windows 2000** (p. 23)

Macintosh

PCR-M1 is not detected when making OMS or FreeMIDI settings (Mac OS 9 users)

- **Is the PCR-M1 detected?**

  - Reconnect the USB cable.
  - If other USB devices are connected, connect only the PCR-M1.
  - It is possible that the Macintosh did not correctly detect and initialize the PCR-M1. Leave the PCR-M1's USB cable connected, and restart your Macintosh. If it is still not detected, shut down your Macintosh, and then restart it.

  In some cases, the PCR-M1 will not be detected if you have connected it to the USB connector located on the keyboard of the Macintosh. Please connect it to a USB connector on the Macintosh itself.

■ Deleting the driver

If you were unable to install the driver according to the procedure given, the PCR-M1 may not be recognized correctly by the computer. In this case, use the following procedure to delete the driver, and then follow the procedure to install the driver once again.

Windows users

Here's how to uninstall the dedicated driver.

1

Start up Windows with the PCR-M1 disconnected.

Disconnect all USB cables other than a USB keyboard or USB mouse.

* *If you are using Windows XP Professional/2000, log on as a user that has administrative privileges (e.g., Administrator).*

2

Insert the CD-ROM into the CD-ROM drive of your computer.

3

From the Windows **Start menu**, choose **"Run..."**.

In the **Run** dialog box, input the following into the **Open** field, and click **[OK]**.

Windows XP/2000 users: **D:\DRIVER\USB_XP2K\Uninstal.EXE**
Windows Me/98 users: **D:\DRIVER\USB_ME98\Uninstal.EXE**

* *The drive name D: may be different on your system. Use the drive name for your CD-ROM drive.*

4

Follow the on-screen instructions to uninstall the driver.

Macintosh (Mac OS 9) users

1

Turn off the power of the PCR-M1.

Also disconnect the USB cable (by which the PCR-M1 is connected) from your Macintosh.

2

From the **system extensions** folder, drag **"USB PCR-M1 Driver"** and **"USB PCR-M1Audio Driver"** into the trash to delete it.

3

Delete **PCR-M1** from the **OMS Folder** inside the **System folder**, or drag **PCR-M1 Driver** from the **FreeMIDI Folder** inside the **System folder** to the **trash**.

4

Restart the Macintosh.

Problems when using the PCR-M1

Can't play back / record MIDI

- **Did you plug in the USB cable, or unplug it while an application was running?**
  Exit all applications that are using the PCR-M1, and exit all applications that are using the PCR-M1, and re-connect the PCR-M1.
- **Is your computer in Suspend or Sleep mode?**
  If so, get your computer to resume normal operation, then exit all applications that are using the PCR-M1. Next, turn the PCR-M1's power off, then switch it on again.
- **Have you specified the MIDI data output destination in your playback software?**
  For some software, you may need to specify the PCR-M1 as the output destination for MIDI data. For details on making this setting, refer to the owner's manual of the software you are using.
- **Was the driver installed correctly?**
  In order for you to play back audio data via the PCR-M1, the driver must be installed. For installation and settings, refer to **"Getting Connected and Installing Drivers"** (Windows:p. 18/ Macintosh: p. 31).
- **Are you running multiple applications?**
  If multiple applications are running simultaneously, an error message may appear. If this occurs, click **[OK]** and exit the other applications.
  Even if an application window is closed, it is still running if it appears in the taskbar. Be sure to exit unneeded applications displayed.

Playback or recording halts midway through, and then becomes impossible

- **Was a heavy processing load experienced while using the PCR-M1, such as accessing the CD-ROM drive or a network?**
  If an operation involving a heavy processing load is performed while the PCR-M1 is in use, it may not operate correctly. If this occurs, stop playback/recording, and then try resuming playback/ recording. If you are still unable to play back/record, exit all applications that use the PCR-M1, switch off the PCR-M1, then turn it on again.

Operating system becomes unstable

- **Operation becomes unstable when the computer is started up with the PCR-M1 already connected**
  Please start up your computer with the PCR-M1 disconnected, and then connect the PCR-M1. On a computer that uses a USB keyboard, starting up the computer with the PCR-M1 already connected may cause operation to become unstable. In this case, start up the computer with the PCR-M1 disconnected, and then connect the PCR-M1.

The display indicates "Lo."

When the batteries run low, the display will indicate "Lo." If this message appears, replace the batteries as soon as possible.

Replacing the batteries will not erase the contents of user memory.

MIDI implementation

Model: PCR-M1 Version 1.00 2004.09.1

1. Receive data

■System exclusive messages

●Universal non-realtime system exclusive message

❍Identity request message

Status	Data byte	Status
F0H	7EH, dev, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal non-realtime system exclusive message)
dev	Device ID (10 or 7FH (Broadcast))
06H	Sub ID #1 (PCR-M1)
01H	Sub ID #1 (PCR-M1)
F7H	EOX (End of Exclusive)

●Data transmission

The PCR-M1 can use Bulk Dump (p. 114) to transfer its internal **Memory sets** (p. 98).

❍Data Set 1 DT1 (12H)

These messages transmit the actual data, and are used to transfer data settings to a device.

Status	Data byte	Status
F0H	41H, 10H, 00H, 62H, 12H, aaH, ddH, ...eeH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID (For the PCR-M1, fixed at 10H)
00H	Model ID #1 (PCR-M1)
62H	Model ID #1 (PCR-M1)
12H	Command ID (RQ1)
aaH	Address
ddH	Data
:	
:	
:	
eeH	Data
sum	Checksum
F7H	EOX (End of Exclusive)

* The amount of data that can be transmitted at once is fixed for each type of data. Data that does not have the specified starting address and data size will not be received. Refer to the explanation in 3. Bulk Dump (p. 114).
* There must be an interval of at least 40 ms between each exclusive message that is sent.
* Also, you must leave an interval of at least 500 ms after transmitting one set of bulk dump data.

2. Transmit data

■Channel voice messages

In addition to the channel voice messages that can be transmitted in each mode, the PCR-M1 lets you assign any channel voice message to any controller and transmit it.

●Note off

Status	2nd byte	3rd byte
9nH	kkH	00H

n = MIDI channel number: 0H – FH (Ch.1 – 16)
kk = note number: 00H – 7FH (0 – 127)

* Transmitted when you release a key in Play mode.

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
kk = note number: 00H – 7FH (0 – 127)
vv = note on velocity: 01H – 7FH (1 – 127)

* Transmitted when you push a key in Play mode.

●Polyphonic key pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
kk = note number: 00H – 7FH (0 – 127)
vv = key pressure: 00H – 7FH (0 – 127)

●Control change

Status	2nd byte	3rd byte
BnH	ccH	vvH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
cc = controller number: 00H – 77H
vv = control value: 00H – 7FH

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
mm = Bank number MSB: 00H – 7FH
ll = Bank number LSB: 00H – 7FH

* Transmitted in Bank mode.

❍Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n = MIDI channel number:0H – FH (Ch.1 – 16)
vv = Modulation depth:00H – 7FH (0 – 127)

* Transmitted when you press the Modulation Controller in Play mode.

●Program change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
pp = Program number: 00H – 7FH (prog. 1 – prog. 128)

* Transmitted in Program change mode.

●Channel pressure

Status	2nd byte
DnH	vvH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
vv = Channel pressure: 00H – 7FH (0 – 127)

●Pitch bend change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
mm, ll = Pitch Bend value: 00 00H – 40 00H – 7FH 7FH (-8192 – 0 – +8191)

* Transmitted by rightward/leftward operation of the PITCH Bender in Play mode.

■Channel mode messages

In addition to the channel mode messages that can be transmitted in Panic mode, the PCR-M1 lets you assign any channel voice message to any controller and transmit it.

●Channel mode messages

Status	2nd byte	3rd byte
BnH	ccH	vvH

n = MIDI channel number: 0H – FH (Ch.1 – 16)
cc = controller number: 78H – 7FH
vv = control value: 00H – 7FH

❍All sounds off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H – FH (Ch.1 – 16)

* Transmitted in Panic mode.

❍Reset all controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI channel number: 0H – FH (Ch.1 – 16)

* Transmitted in Panic mode.

❍All notes off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI channel number: 0H – FH (Ch.1 – 16)

* Transmitted in Panic mode.

■System common message

On the PCR-M1 you can assign the following system common messages to any controller and transmit them.

●MTC quarter frame

Status	2nd byte
F1H	mmH

mm = Message type/value

●Song position pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

mm, ll = Song position: 00 00H - 7F 7FH (0-16383)

●Song select

Status	2nd byte
F3H	mmH

mm = Song number: 00 00H - 7F 7FH (0-16383)

●Tune request

Status
F6H

■System realtime message

In addition to the Active Sensing messages that are transmitted constantly, the PCR-M1 allows you to assign the following system realtime messages (other than Active Sensing) to any controller and transmit them.

●Timing Clock

Status
F8H

* Transmitted if the System setting F8 CLOCK is ON.

●Start

Status
FAH

●Continue

Status
FBH

●Stop

Status
FCH

●Active sensing

Status
FEH

* Transmitted at intervals of approximately 250 ms.
* Cannot be assigned to a controller.

●System reset

Status
FFH

■System exclusive message

The PCR-M1 is able to transmit the following exclusive messages: exclusive messages assigned to the controllers, Identity Reply, V-LINK message and Bulk Dump.

●Universal non-realtime system exclusive

❍Identity reply

This message will be transmitted when an Identity Request message is received.

Status	Data byte	Status
F0H	7EH,10H,06H,02H,41H,62H,01H, 00H,00H,02H,01H,00H,00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal non-realtime message)
10H	Device ID (For the PCR-M1, fixed at 10H)
06H	Sub ID #1 (General Information)
02H	Sub ID #1 (Identity Reply)
41H	ID number (Roland)
62H 01H	Device family code
00H 00H	Device family number code
03H 01H	Software revision level
00H 00H	:
F7H	EOX (End of Exclusive)

●V-LINK message

❍V-LINK ON

Transmitted when entering V-LINK mode.

Status	Data byte	Status
F0H	41H,10H,00H,51H,12H, 10H,00H,00H,01H,0FH,0FH,51H	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID (For the PCR-30/50/80, fixed at 10H)
00H 51H	Model ID (V-LINK)
12H	Command ID (DT1)
10H 00H 00H	Address
01H	V-LINK ON
0FH	Clip Control Rx. MIDI Ch. (16ch)
0FH	Color Control Rx. MIDI Ch. (16ch)
51H	Checksum
F7H	EOX (End of Exclusive)

❍V-LINK OFF

Transmitted when exiting V-LINK mode.

Status	Data byte	Status
F0H	41H,10H,00H,51H,12H, 10H,00H,00H,00H,70H	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID (For the PCR-30/50/80, fixed at 10H)
00H 51H	Model ID (V-LINK)
12H	Command ID (DT1)
10H 00H 00H	Address
00H	V-LINK OFF
51H	Checksum
F7H	EOX (End of Exclusive)

❍Sender Model Name

Transmitted when entering V-LINK mode.

Status	Data byte	Status
F0H	41H,10H,00H,51H,12H, 10H,71H,00H,45H,44H,49H,52H,4FH,4CH, 20H,50H,43H,52H,00H,3BH	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID (For the PCR-30/50/80, fixed at 10H)
00H 51H	Model ID (V-LINK)
12H	Command ID (DT1)
aaH	Address
10H 71H 00H	Data
45H 44H 49H	Model name (EDIROL PCR)
52H 4FH 4CH	:
20H 50H 43H	:
52H 00H	:
3BH	Checksum
F7H	EOX (End of Exclusive)

●Data transmission

❍Data Set 1 DT1 (12H)

Transmitted when you execute Bulk TX in the Bulk mode.

Status	Data byte	Status
F0H	41H, 10H, 00H, 62H, 12H, aaH, ddH, ...eeH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID
00H	Model ID #1 (PCR-M1)
62H	Model ID #1 (PCR-M1)
12H	Command ID (RQ1)
aaH	Address
ddH	Data
:	
eeH	Data
sum	Checksum
F7H	EOX (End of Exclusive)

* The amount of data that can be transmitted at once is fixed for each type of data. Data that does not have the specified starting address and data size will not be received. Refer to the explanation in 3. Bulk Dump.
* There must be an interval of at least 40 ms between each exclusive message that is sent.
* Also, you must leave an interval of at least 500 ms after transmitting one set of bulk dump data.

3. Bulk dump

Bulk dump allows a large amount of data to be transferred in a single operation. For example, this can be used to store all settings of a device into a computer or sequencer.
On the PCR-M1, a bulk dump will be transmitted when you execute the Bulk mode operation BULK TX. The bulk dump is transmitted as several exclusive messages.

Address	Parameter	Packets
00H, 00H, 00H, 00H--00H, 00H, 1A, 7F	Current memory	27

* You must leave an interval of at least 40 ms between each exclusive message.
* In the case of ALL BULK, the contents of memories 1--F will be transmitted as the current memory, consecutively from memory 1 through memory F. After transmitting one set of bulk dump data, you must leave an interval of at least 500 ms.
* Please be aware that if you modify the data dumped from the PCR-M1 by changing the order in which the exclusive messages are transmitted, by inserting other messages between the system exclusive messages, or by speeding up the timing of the transmission, the data may not be set correctly when the PCR-M1 receives it.

4. Supplementary material

●Decimal and Hexadecimal table

(An "H" is appended to the end of numbers in hexadecimal notation.)

In MIDI documentation, data values and addresses/sizes of Exclusive messages, etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers.

Dec.	Hex.	Dec.	Hex.	Dec.	Hex.	Dec.	Hex.
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

* The decimal expression of the MIDI channel, program change, etc., is one greater than the decimal value shown in the table above.

* The hexadecimal expression for each 7 bits allows a maximum of 128 steps (0--127) to be expressed by one byte of data. Multiple bytes are used if the data requires greater resolution than this. For example, a value expressed by two 7-bit bytes "aa" and "bbH" would be aa x 128 + bb.

* In the case of signed (+/-) data, 00H = -64, 40H = +/-0, and 7FH = +63; i.e., a value 64 less than the decimal value shown in the above table is used. In the case of a two-byte value, 00 00H = -8192, 40 00 = +/-0, and 7F 7F = +8191. For example, a value of "aa" and "bbH" would have a decimal expression of aa bbH - 40 00H = aa x 128 + bb - 64 x 128.

* In the case of data indicated as "use nibble data," hexadecimal expression in 4-bit units is used. A nibble-expressed value of the two bytes 0a and 0bH would have a value of a x 16 + b.

<Example1>

What is the decimal expression of 5AH?
From the preceding table, 5AH = 90.

<Example2>

What is the decimal expression of the 7-bit hexadecimal value 12 34H?
From the preceding table, 12H = 18, and 34H = 52.
Thus, this is 18 x 128 + 52 = 2356

<Example3>

What is the decimal expression of the nibble-expressed value 0A 03 09 0D?
From the preceding table, 0AH = 10, 03H = 3, 09H = 9, and 0DH = 13.
Thus, this is ((10 x 16 + 3) x 16 + 9) x 16 + 13 = 41885

<Example4> What is the nibble-expressed value of decimal 1258?

1258 ÷ 16 = 78 (quotient) ... 10 (remainder)
78 ÷ 16 = 4 (quotient) ... 14 (remainder)
4 ÷ 16 = 0 (quotient) ... 4 (remainder)
From the preceding table, 0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0HA.
Thus, the nibble-expressed value is 00 04 0E 0AH

●Example of an actual MIDI message

<Example1> CE 04

CnH is the Program Change status. "n" is the MIDI channel number. EH = 14, and 04H = 04. Thus, this is a program change message on MIDI channel 15, for program number 05.

●Checksum calculation

In order to verify that the message was received correctly, Roland exclusive messages (RQ1, DT1) add a checksum following the end of the data (before the F7). The checksum value is determined by the address and data (or size) of the exclusive message that is transmitted.

❍Calculating the checksum

("H" has been added following hexadecimal values)
The checksum is a value that results in a lower 7 bits of 0 when the address, size, and checksum itself are added together.
Specifically, the calculation will be as follows when the exclusive message you want to transmit has an address of aa bb ccH and data or size of dd ee ffH.

aa + bb + cc + dd + ee + ff = total
total ÷ 128 = quotient ... remainder
128 - remainder = checksum

* However, as an exception, the checksum for a remainder of 0 is not 80H but rather 00H.

MIDI KEYBOARD CONTROLLER

Date : Sep. 01, 2004

Model PCR-M1

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1	X	
Channel	Changed	1–16	X	
Mode	Default	Mode 3	X	
	Messages	OMNI ON/OFF, MONO, POLY	X	
	Altered	**********	X	
Note Number :	True Voice	0–127 **********	X X	
Velocity	Note On	O (9n v=1–127)	X	
	Note Off	O (9n v=0)	X	
After Touch	Key's	O	X	
	Channel's	O	X	
Pitch Bend		O	X	
Control Change	0-119	O	X	
Program Change	: True Number	O (0–127) **********	X X	
System Exclusive		O	O	
System Common	: Song Position	O	X	
	: Song Select	O (0–127)	X	
	: Tune Request	O	X	
System Real Time	: Clock	O	X	
	: Commands	O	X	
Aux Messages	: All Sound Off	O *1 (120)	X	
	: Reset All Controllers	O *1 (121)	X	
	: Local On/Off	O	X	
	: All Notes Off	O *1 (123)	X	
	: Active Sensing	O	X	
	: System Reset	O	X	
Notes		* 1 When PANIC is transmitted.		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Main specifications

■ PCR-M1: MIDI Keyboard Controller

● Keyboard
25 Keys (S.L.I.M with velocity)

* *S.L.I.M = Short-stroke, Low-profile Impact Mechanism*

● Display
7 segments, 3 characters (LED)

● Controllers
Value Encoder Knob
Memory Button
MIDI Channel Button
Program Change Button
Shift Button
Octave Shift Buttons (+/-)
Transpose Button
Assignable Buttons (B1--6)
Pitch Bender
Modulation Controller
Assignable Rotary Volume Knobs (R1--8)

● Connectors
USB connector: Type B
MIDI Connectors (IN, OUT)
Hold pedal jack (Miniature phone type)
Expression pedal jack (Stereo miniature phone type)

● Rear Panel
Power Switch (USB BUS/OFF/DC)

● Power Supply
USB Bus Power
DC 9 V: AC Adaptor (PSA Series)
DC 6 V: Alkaline Dry Battery LR03 (AAA) type x 4

● Current Draw
150 mA
Expected battery life under continuous use:
Alkaline: 10 hours

* *This figure will vary depending on the actual conditions of use.*

● Dimensions
450 (W) x 220 (D) x 28 (H) mm
17-3/4 (W) x 8-11/16 (D) x 1-1/8 (H) inches

● Weight
1.4 kg / 3 lbs 2 oz (excluding AC adaptor)

● Accessories
CD-ROM
USB Cable
Pedal Adaptor Cable x 2
Owner's Manual
Template Sheets (GM2, BLANK)
Gig Bag

● Options
AC Adaptor (PSA Series)
Pedal Switch (DP Series)
Expression Pedal (EV Series)

* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

index

A

AC adaptor jack 15
Active sensing 113
Advanced mode 58
Aftertouch
  Aftertouch Assign 58, 62–63
  Aftertouch message 62
All notes off 55, 113
All sounds off 55, 113
AppleTalk 35, 37
ASSIGN COPY 58, 84
Assignments
  Aftertouch 58
  Control Change 58
  Note 58
  Program Change 58
  RPN/NRPN 58
  Sys Ex. 58
Audio MIDI Setup 32

B

Bank 47, 52, 54
  Bank Mode 47
  Bank Select 47, 112
Basic mode 58
batteries 16
Bend Pitch Control 81
block number 74, 78
BULK 89
Bulk 87
  All Bulk 87, 89–90
  Bulk dump 87
  Bulk mode 88
  Single Bulk 87
Bulk dump 87

C

CANCEL 14, 47, 49
Channel mode messages 113
CHANNEL PRESSURE 62, 98, 113
Channel voice messages 112
CHECKSUM 74, 76, 82, 115
Continue 113
CONTROL CHANGE 58, 65–66, 112
CONTROL CHANGE ASSIGN 58, 66
Controllers 13–15
COPY 84
CTRL IN port 46
Cubase 100
current channel 50
current memory 86–87

D

data area 77, 80–81
Data entry 71
DATA OUT 12
Data transmission 112, 114
DEC Button 14
Decimal 14, 51, 115
DECIMAL Button 14
Decimal input mode 14, 51
Deleting the driver 109
Digital Signature 24–25, 107
Display 12
driver 45, 93
Driver Signing 18, 21, 23, 25
DT1 ..... 112, 114

E

EDIT 47, 58
EDIT Button 12
Edit mode 47
Error 88
Error display 88

F

F8 CLOCK 91
F8 CLOCK DEFAULT TEMPO 91–92
F8 CLOCK ON / OFF 91–92
F8 CLOCK PORT 91–92
FACTORY RESET 91, 94
FPT 93
FreeMIDI 38

G

Generic driver 93
GM2 MEMORY 93
GM2 set 98
GM2 System On 79
GS SET 101–102

H

H-ACTIVITY ON / OFF 91, 93
H-COMPATIBLE SET 101
HEAVY 92
HEX 12, 51
HEX Button 14
Hexadecimal 14, 51, 115
Hexadecimal input mode 14, 51

I

Identity reply 114
Identity request message 112
INC Button 14
input mode 51
Insert Disk 20

K

KEY VELOCITY 95
KEYBOARD PORT SET 91, 93
KEYBOARD SENS 91–92

L

LAST ACCESS MEMORY 93
Latch mode 59
LIGHT 92
LSB 47, 54, 69, 71, 73, 77, 80

M

MCR-8 MODE SET 99–100
MEDIUM 92
MEMORY 47, 56, 95
MEMORY / PGM CHANGE Button 12
Memory mode 47
memory number 56
Memory sets 56
MIDI 47
MIDI CH 47, 50, 95
MIDI CH / BANK SEL Button 12
MIDI Channel mode 47
MIDI Devices 45
MIDI flow 44
MIDI IN/OUT connectors 15
MIDI interface 43
Modulation 49, 112
MODULATION Button 14
MSB 47, 54, 69, 71, 73, 77, 80
MTC quarter frame 113
Multimedia Properties 30

N

New External Device 32
NO ASSIGN 58, 85
NOTE 58
NOTE ASSIGN 58, 60
Note message 60
Note off 112
Note on 112
NRPN 58, 71
NRPN ASSIGN 58

O

OCTAVE 14, 49
OCTAVE - / + Button 14
OMNI 51
OMNI OFF 51
OMNI ON 51
OMS 35
Original driver 93
Other device 105

P

PANIC 47, 55
Panic mode 47
PC DEC 68, 70
PC INC 68, 70
PCR 1 45
PCR 2 45
PCR MIDI IN 45
Pedal converter cable 10
pitch 14, 49

Pitch Bend 49
Pitch bend change 113
PLAY mode 47
Polyphonic Key Pressure 62–63, 112
port 45–46, 59
Power switch 15
Preferred device 29–30
Program 113
PROGRAM CHANGE 47, 51, 53, 58, 113
PROGRAM CHANGE ASSIGN 58, 68
Program Change Decrement function 70
Program Change Increment function 70
Program Change mode 47
PROTECT 90
PROTECT OFF 90
PROTECT ON 90

R

Receive data 112
Reset all controllers 55, 113
rotary encoder 65
RPN 58, 71
RPN / NRPN ASSIGN 58
RPN ASSIGN 58

S

SAVE 86, 90
Security Slot 15
SHIFT Button 12
SNAPSHOT 47, 57
Snapshot mode 47
SONAR 99
Song position pointer 113
Song select 113
Sounds and Audio Devices 28–29
Start 113
STARTUP MEMORY 91, 93
Stop 113
Sys Ex. 58
Sys Ex. ASSIGN 58, 74, 77
Sys Ex. message 74
SYSTEM 91
System common message 113
system exclusive message 74, 77–79, 112, 114
system message 74
System realtime message 113
System reset 113

T

Template sheets 10
TEMPO 58, 83, 95
TEMPO ASSIGN 58
Timing Clock 113
Toggle mode 59
Transmit data 112
TRANSPOSE 49
Transpose 49
TRANSPOSE / ENTER Button 14
Tune request 113

U

Universal non-realtime system exclusive ... 112, 114
Unknown device 105
USB 12
USB cable 10
USB connector 15
USB MIDI DRIVER MODE 91, 93

V

Value knob 12
vibrato 49
V-LINK Button 14

X

XG SET 103

Memo

UK This symbol indicates that in EU countries, this product must be collected separately from household waste, as defined in each region. Products bearing this symbol must not be discarded together with household waste.

DE Dieses Symbol bedeutet, dass dieses Produkt in EU-Ländern getrennt vom Hausmüll gesammelt werden muss gemäß den regionalen Bestimmungen. Mit diesem Symbol gekennzeichnete Produkte dürfen nicht zusammen mit den Hausmüll entsorgt werden.

FR Ce symbole indique que dans les pays de l'Union européenne, ce produit doit être collecté séparément des ordures ménagères selon les directives en vigueur dans chacun de ces pays. Les produits portant ce symbole ne doivent pas être mis au rebut avec les ordures ménagères.

IT Questo simbolo indica che nei paesi della Comunità europea questo prodotto deve essere smaltito separatamente dai normali rifiuti domestici, secondo la legislazione in vigore in ciascun paese. I prodotti che riportano questo simbolo non devono essere smaltiti insieme ai rifiuti domestici.
Ai sensi dell'art. 13 del D.Lgs. 25 luglio 2005 n. 151.

ES Este símbolo indica que en los países de la Unión Europea este producto debe recogerse aparte de los residuos domésticos, tal como esté regulado en cada zona. Los productos con este símbolo no se deben depositar con los residuos domésticos.

PT Este símbolo indica que nos países da UE, a recolha deste produto deverá ser feita separadamente do lixo doméstico, de acordo com os regulamentos de cada região. Os produtos que apresentem este símbolo não deverão ser eliminados juntamente com o lixo doméstico.

NL Dit symbool geeft aan dat in landen van de EU dit product gescheiden van huishoudelijk afval moet worden aangeboden, zoals bepaald per gemeente of regio. Producten die van dit symbool zijn voorzien, mogen niet samen met huishoudelijk afval worden verwijderd.

DK Dette symbol angiver, at i EU-lande skal dette produkt opsamles adskilt fra husholdningsaffald, som defineret i hver enkelt region. Produkter med dette symbol må ikke smides ud sammen med husholdningsaffald.

NO Dette symbolet indikerer at produktet må behandles som spesialavfall i EU-land, iht. til retningslinjer for den enkelte regionen, og ikke kastes sammen med vanlig husholdningsavfall. Produkter som er merket med dette symbolet, må ikke kastes sammen med vanlig husholdningsavfall.

SE Symbolen anger att i EU-länder måste den här produkten kasseras separat från hushållsavfall, i enlighet med varje regions bestämmelser. Produkter med den här symbolen får inte kasseras tillsammans med hushållsavfall.

FI Tämä merkintä ilmaisee, että tuote on EU-maissa kerättävä erillään kotitalousjätteistä kunkin alueen voimassa olevien määräysten mukaisesti. Tällä merkinnällä varustettuja tuotteita ei saa hävittää kotitalousjätteiden mukana.

HU Ez a szimbólum azt jelenti, hogy az Európai Unióban ezt a terméket a háztartási hulladéktól elkülönítve, az adott régióban érvényes szabályozás szerint kell gyűjteni. Az ezzel a szimbólummal ellátott termékeket nem szabad a háztartási hulladék közé dobni.

PL Symbol oznacza, że zgodnie z regulacjami w odpowiednim regionie, w krajach UE produktu nie należy wyrzucać z odpadami domowymi. Produktów opatrzonych tym symbolem nie można utylizować razem z odpadami domowymi.

CZ Tento symbol udává, že v zemích EU musí být tento výrobek sbírán odděleně od domácího odpadu, jak je určeno pro každý region. Výrobky nesoucí tento symbol se nesmí vyhazovat spolu s domácím odpadem.

SK Tento symbol vyjadruje, že v krajinách EÚ sa musí zber tohto produktu vykonávať oddelene od domového odpadu, podľa nariadení platných v konkrétnej krajine. Produkty s týmto symbolom sa nesmú vyhadzovať spolu s domovým odpadom.

EE See sümbol näitab, et EL-i maades tuleb see toode olemprügist eraldi koguda, nii nagu on igas piirkonnas määratletud. Selle sümboliga märgitud tooteid ei tohi ära visata koos olmeprügiga.

LT Šis simbolis rodo, kad ES šalyse šis produktas turi būti surenkamas atskirai nuo buitinių atliekų, kaip nustatyta kiekviename regione. Šiuo simboliu paženklinti produktai neturi būti išmetami kartu su buitinėmis atliekomis.

LV Šis simbols norāda, ka ES valstīs šo produktu jāievāc atsevišķi no mājsaimniecības atkritumiem, kā noteikts katrā reģionā. Produktus ar šo simbolu nedrīkst izmest kopā ar mājsaimniecības atkritumiem.

SI Ta simbol označuje, da je treba proizvod v državah EU zbirati ločeno od gospodinjskih odpadkov, tako kot je določeno v vsaki regiji. Proizvoda s tem znakom ni dovoljeno odlagati skupaj z gospodinjskimi odpadki.

GR Бхфь фп уэмвплп дзлюней ьфй уфйт чюсет фзт ЕЕ, фп рспъьн бхфь рсЭрей нб ухллЭгефбй оечщсйуфЬ брь фб пйкйбкЬ брпссЯммбфб, уэмцщнб ме фз нпмпиеуЯб фзт кЬие ресйпчЮт. Фб рспъьнфб рпх цЭспхн бхфь фп уэмвплп ден рсЭрей нб брпссЯрфпнфбй мбжЯ ме фб пйкйбкЬ брпссЯммбфб.

For EU Countries

This product complies with the requirements of European Directive 89/336/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

For the USA

DECLARATION OF CONFORMITY
Compliance Information Statement

Model Name :	PCR-M1
Type of Equipment :	MIDI KEYBOARD CONTROLLER
Responsible Party :	Roland Corporation U.S.
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Telephone :	(323) 890 3700

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